Gen(AI) Flow

Bootcamp

CI&T Google Cloud

Gen(AI) Flow

Bootcamp

CI&T Google Cloud

[redacted]

CIST Google Cloud

Sundar Pichai
CEO Alphabet & Google

CIST Google Cloud

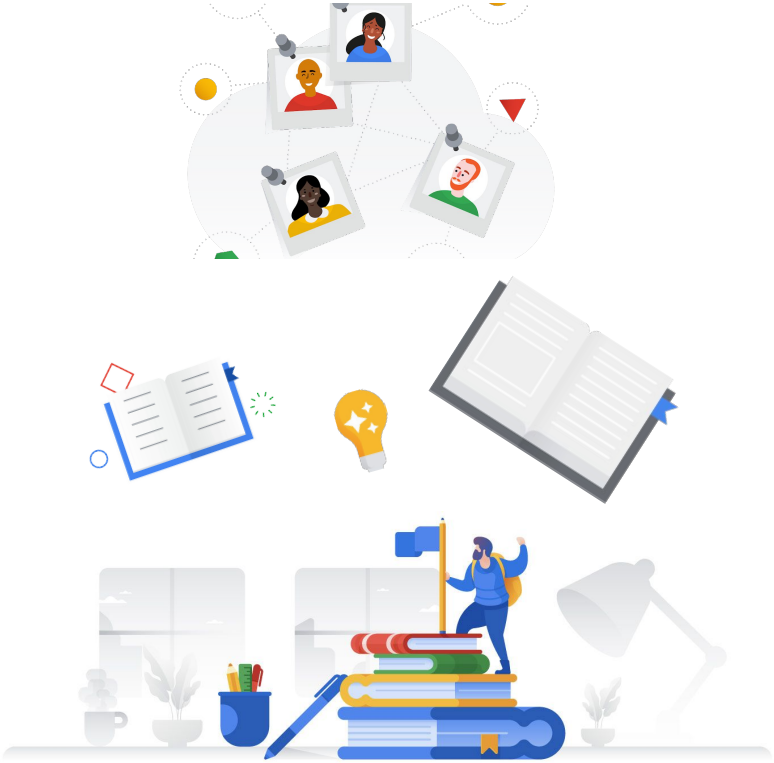
“Não se preocupe apenas com o repertório, mas como o novo repertório nos leva a melhores questões”

Stuart Firenstein

CIST Google Cloud

Proprietary + Confidential

Agenda



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CIST Google Cloud

Renato Nobre

Senior Innovation Advisor
& Generative AI Ambassador no Google Cloud

renatonobre@google.com

011-94231-9798

Mestre em Engenharia de Produção Poli-USP

(Tema: Design na comercialização de Tecnología)

Prof. de **Design** e **Inovação** na ESPM (2012-2017)

Especialista: **Gamification/Coalisão/Loyalty, Supply Chain,Social Media**

Industry Knowledge (**CPG, Retail, Banking, Mfg, Agro,etc**)

Business Apps Knowledge: **SCM, CRM, ERP, TMS, WMS, Ecommerce**

Tech Knowledge: **HTML,CSS,JScript, PL/SQL,Figma & Python Debug lover**

Clientes LATAM, US e Europa

320 Talks,550 Workshops, 50 MVPs, 6 Hackathons (Arezzo, Gripo Salinas, 2xMercado Livre,Stellantis, BV, GC4FStartups)

Criação de 7 innovation Labs internos e aceleração de 5 Labs de clientes

CI&T Google Cloud

Max Nolan Shen

Innovation & Strategic Foresights Executive & GenAI Powerhouse Leader at CI&T

maxns@ciandt.com

011-98114-2426

Gradução em Engenharia Mecatrônica Poli-USP

Pós na CEAG FGV e MiamiAdSchool

Founder Futures, Federação e Dervish

Industry Knowledge **CPG, Banking, Education**

Clientes

Bradesco, Itaú, Santander, Natura, Heineken, Pepsico, Mondeléz, Unilever, J&J, Hypera Pharma, Coty, Nestlé, Ambev, Diageo, Maple Bear, Anhembi Morumbi, Motorola, Bacardi, Vigor, Pirelli, BRMalls, etc...

CI&T Google Cloud

Seu Nome

Estou na (função) na (empresa)

Fun Fact

Um desafio que a AI pode me ajudar

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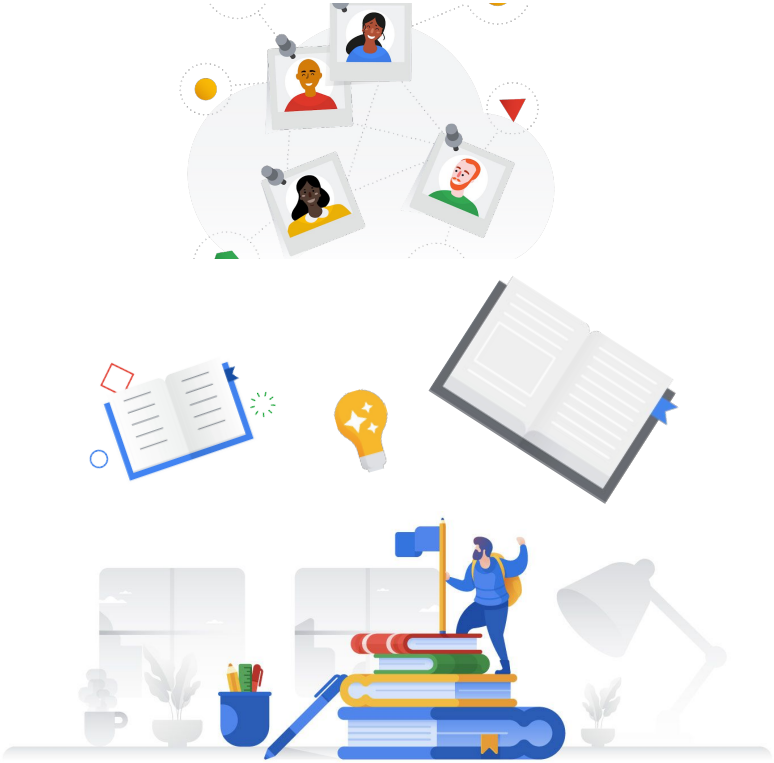
Agenda



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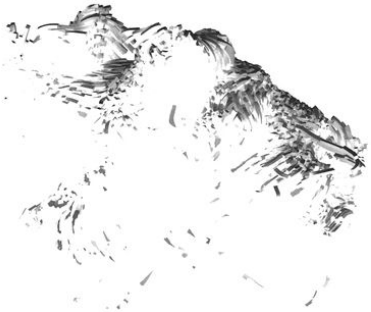
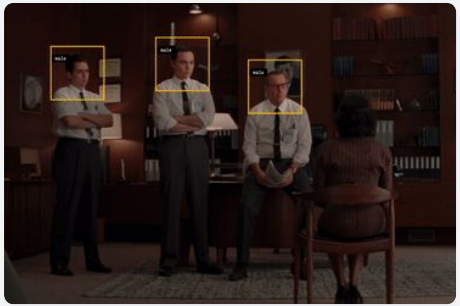
Premissa ZERO



1. **A IA só gera valor com clareza de propósito.**

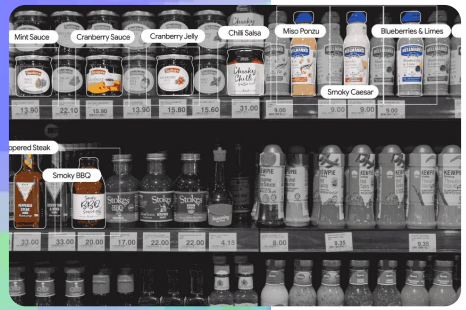


To understand gender representation at the movies

Geena Davis Institute on Gender in Media

To understand the moments that best reflect the emotion of games

FOX SPORTS

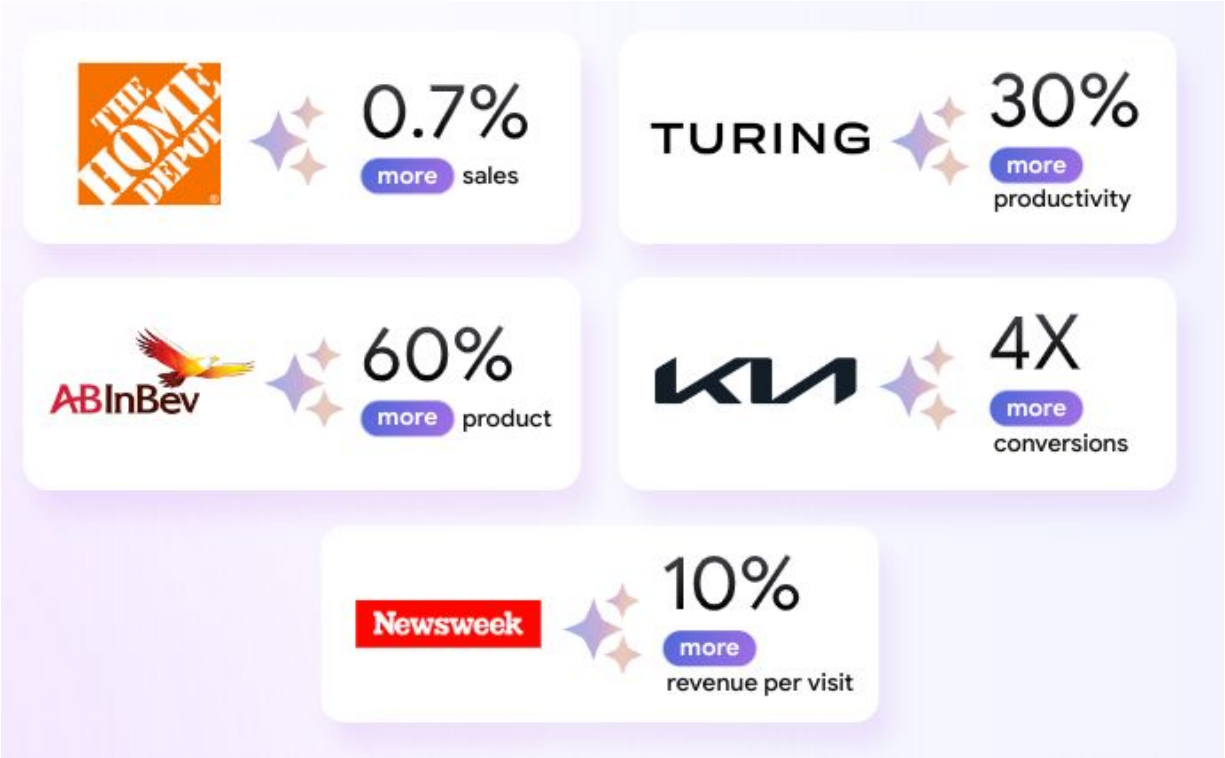


To understand the localized need for real-time restocking

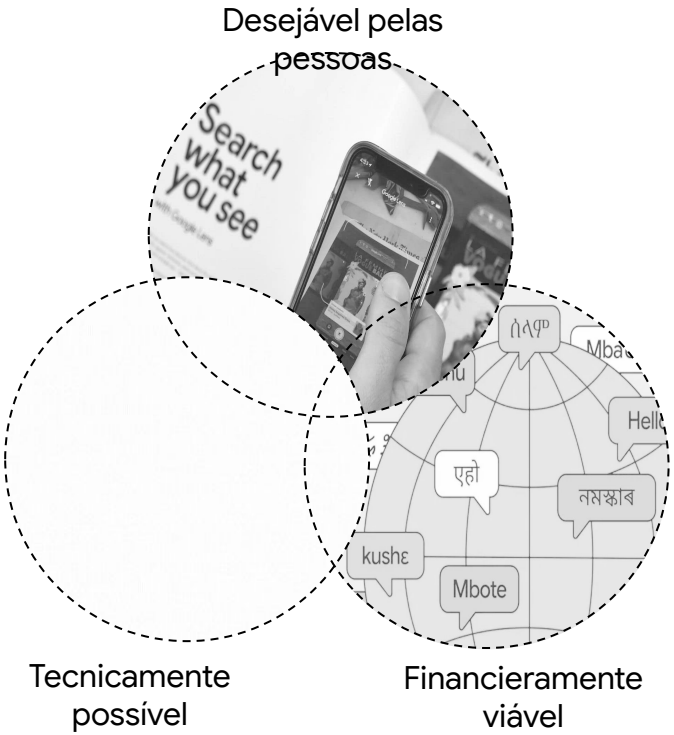
CI&T Google Cloud

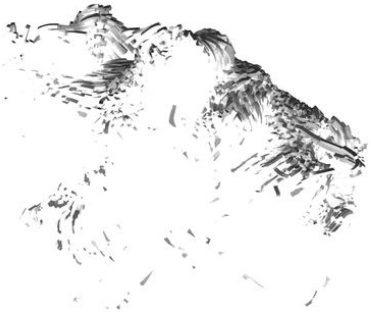
1. **A IA só gera valor com clareza de propósito.**

If the user can't spell, it's our problem.
If they don't know how to form a query, it's our problem.
If they don't know what words to use, it's our problem.
If they can't speak the language, it's our problem.
If there's not enough content on the web, it's our problem.
If the web is too slow, it's our problem.

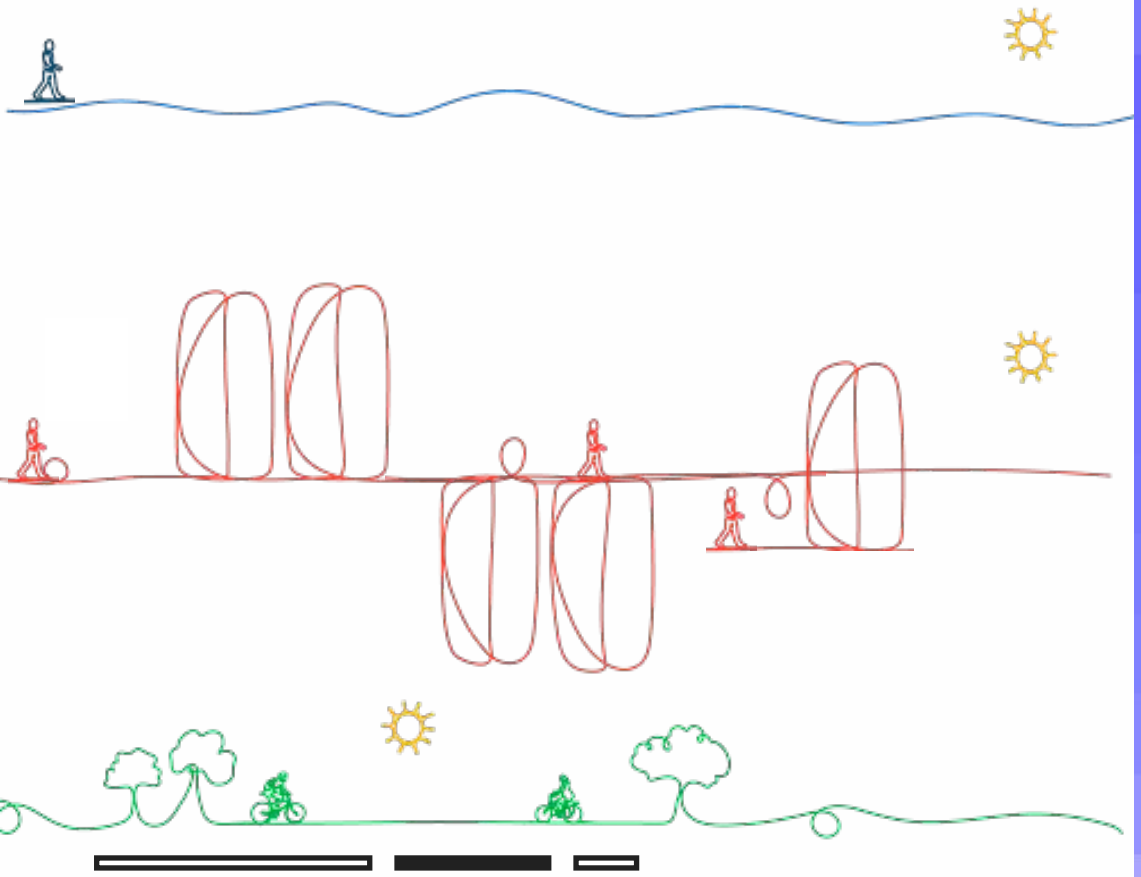


2. O valor é co criado considerando os elementos



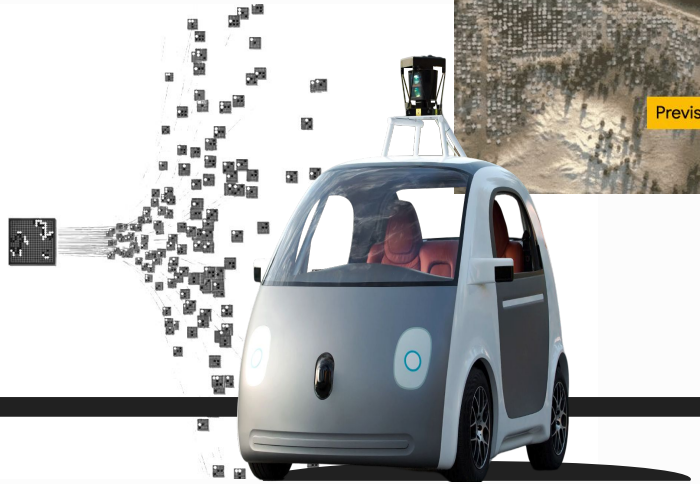


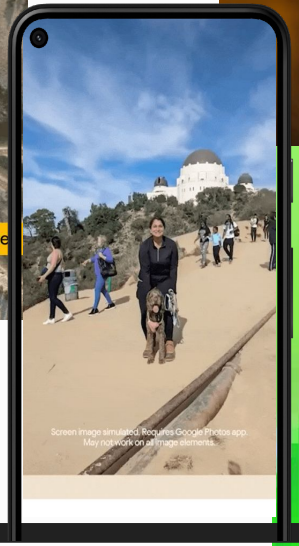
3. O processo de (co)criação é caótico



3. A revolução é invisível

do algoritmo à interface





Next Level Business

AI

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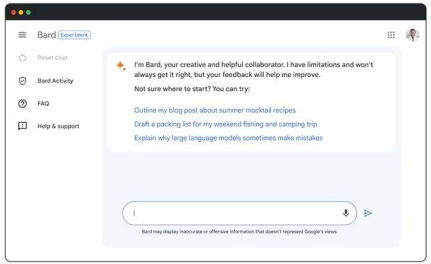
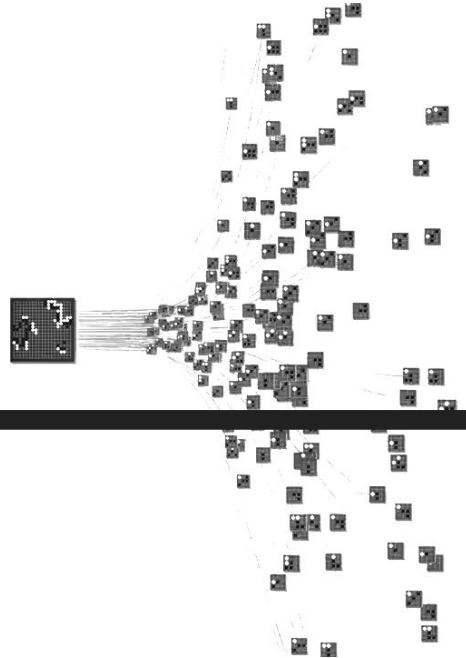
Generative AI



outline my

4. Ela promete algo

"Many companies are struggling to "do more with less." Gen AI may be the technology that finally unlocks the full potential of productivity, once and for all."



AI multiplicador de negócios

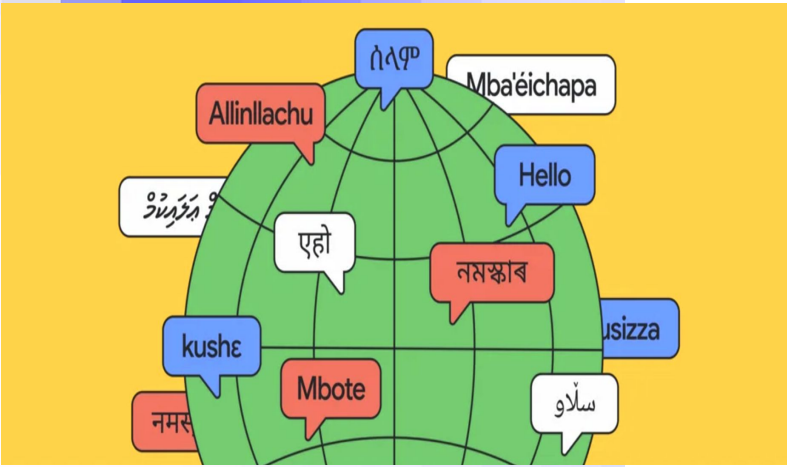
Next Level Business

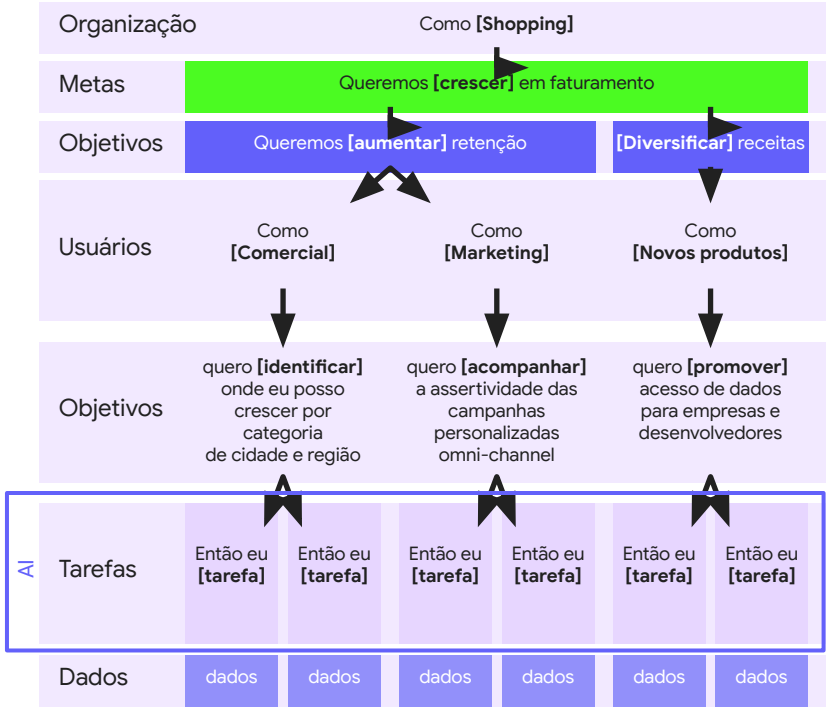
AI

CINT Google Cloud

https://cloud.google.com/transform/data-trends-gen-ai-2024-business-innovation

Business OKRs





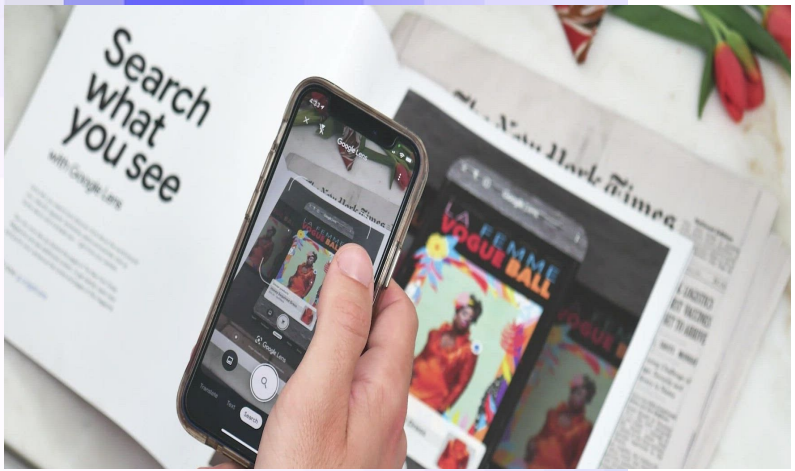
go/CUJs

Google Cloud

Next Level Business

AI

User needs



Usuários	Como **[Inquilino]**	Como **[Usuário]**	Como **[Prestador]**
Objetivos	quero **[identificar]** como posso realizar manutenção durante o contrato	quero **[encontrar]** O produto que desejo que caiba no meu bolso no longo prazo e me divertir com a família	quero **[garantir]** que meu serviços estejam dentro das condições do contrato
AI Tarefas	Então eu **[tarefa]** / Então eu **[tarefa]**	Então eu **[tarefa]** / Então eu **[tarefa]**	Então eu **[tarefa]** / Então eu **[tarefa]**

go/CUJs

5. Isso que se recomenda

Use AIs que estão prontas

Use as AIs que já estão prontas e disponíveis hoje

Use seus dados

Use os dados que você já tem disponível para treinar as AIs que já existem

Crie sua AI

Crie sua própria estratégia de AI

Inteligências Colaborativas

Faça AIs e humanos trabalharem juntos

6. Sem respeitar não devemos fazer

Google AI principles

01

Traga benefícios para a sociedade

02

Evite a criação e a afirmação de ideias e comportamentos injustos e tendenciosos

03

Seja criada e testada para garantir segurança

04

Seja responsável com os usuários

05

Projetadas de acordo com princípios de privacidade

06

Padrões elevados de excelência científica

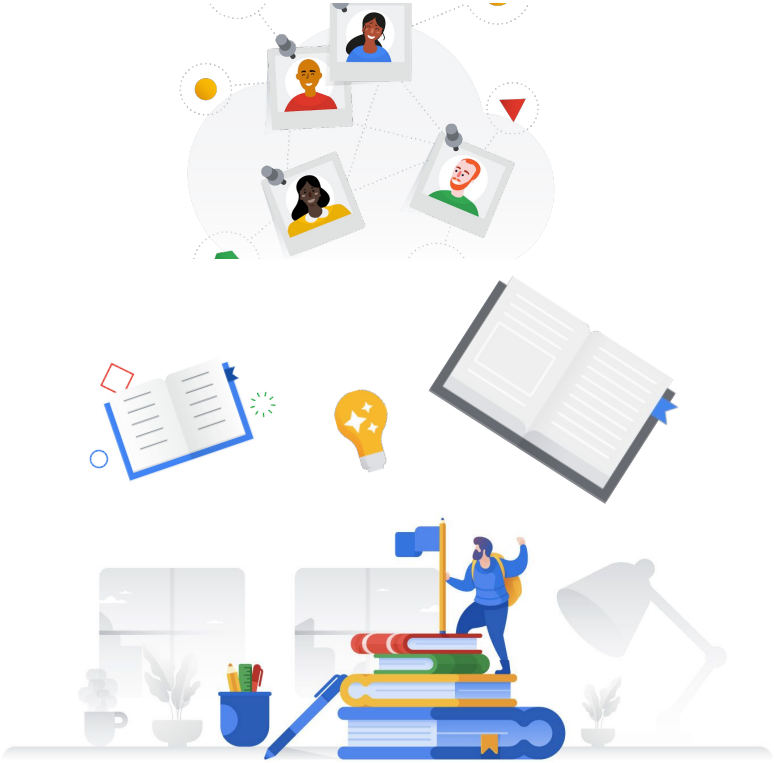
07

Estará disponível para outras pessoas, para utilizações que respeitem os princípios acima

https://brasil.googleblog.com/2018/06/ia-no-google-nossos-principios.html?m=1
https://ai.google/responsibility/principles/
https://www.youtube.com/watch?v=wsW9-jjY5Z0&t=9s

Proprietary + Confidential

Agenda



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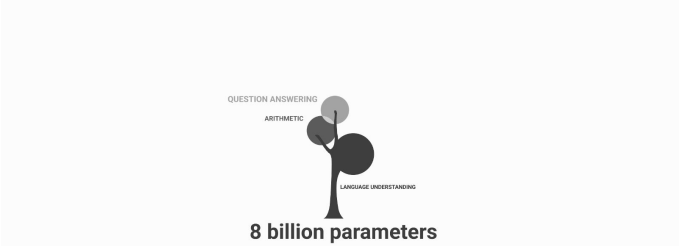
Tarefas da AI



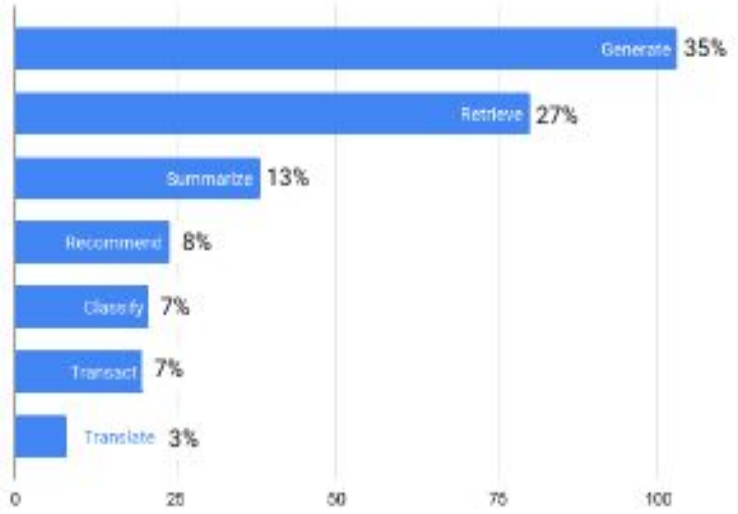
Tarefas da IA Generativa

Texto / Código / Imagem / Diálogo / Audio & Musica / Videos / Tabelas

Tarefas da IA Preditiva

https://developers.google.com/machine-learning/problem-framing/ml-framing?hl=en

Tarefas da IA Generativa

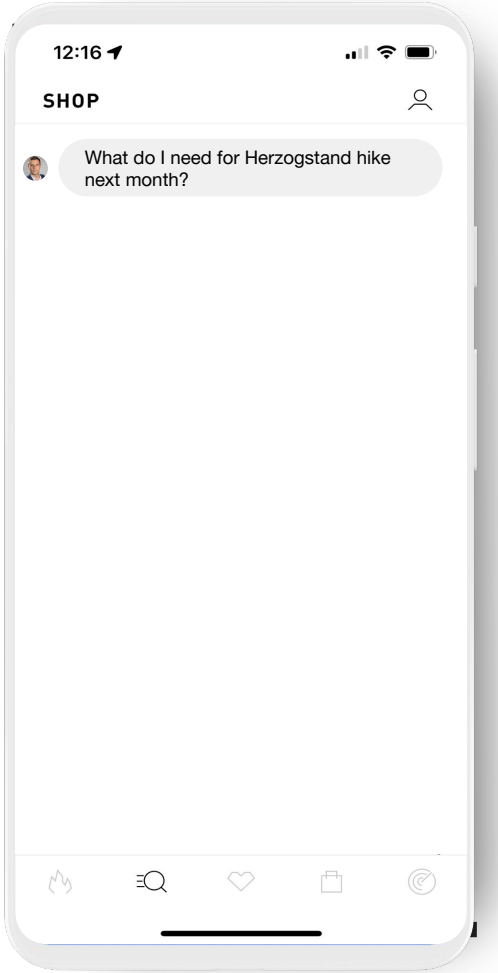


"For journalists - **retrieval** of archival documents with summarization of all the content retrieved and citation of both internal and external sources of the summary."

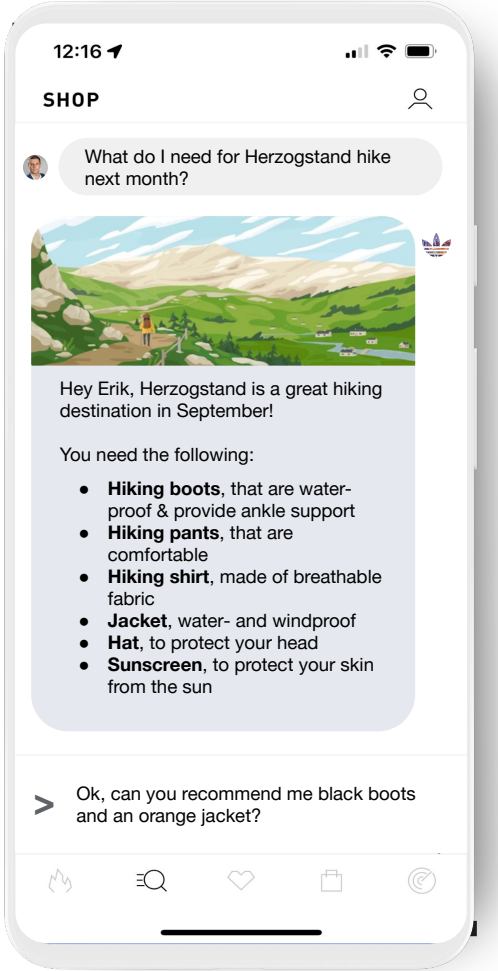
"**Generate** description of a product based on the model and some instructions. "Provide a product description of nike Air Jordan model XXX for a website product description."

"Ability to crawl through large volumes of internal documentation and **provide Q&A** interface to employees to discover content, or uncover the relevant teams or experts to contact"

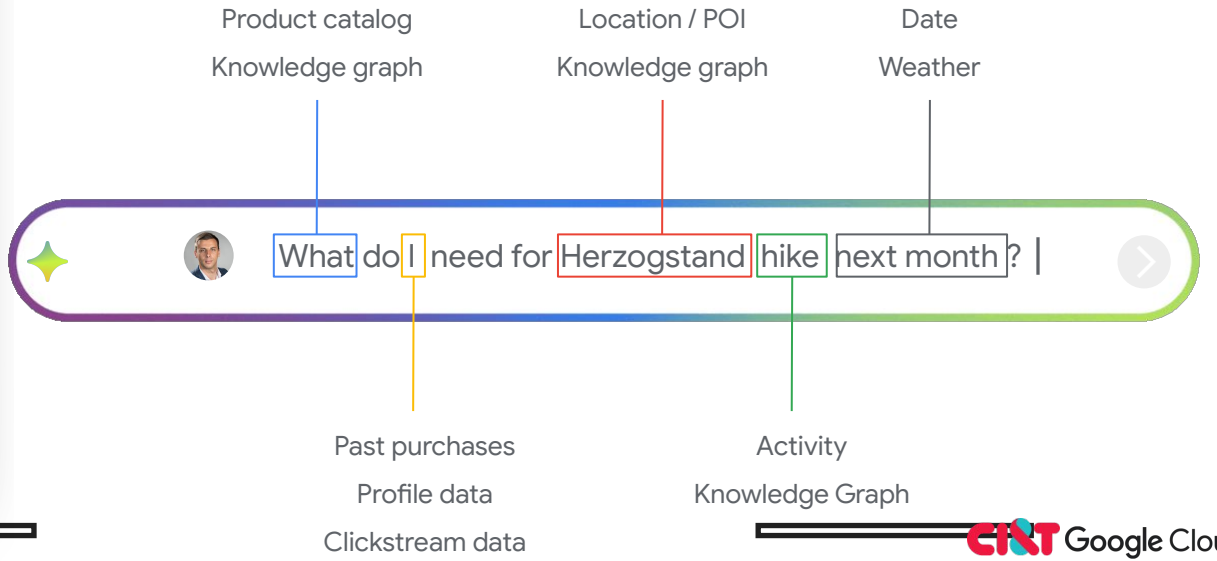
"Write me a **summary** from the brokers to send to analysts covering a company like Apple."



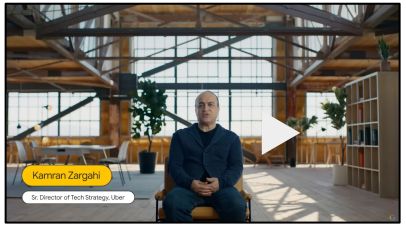
Do transacional para o conversacional



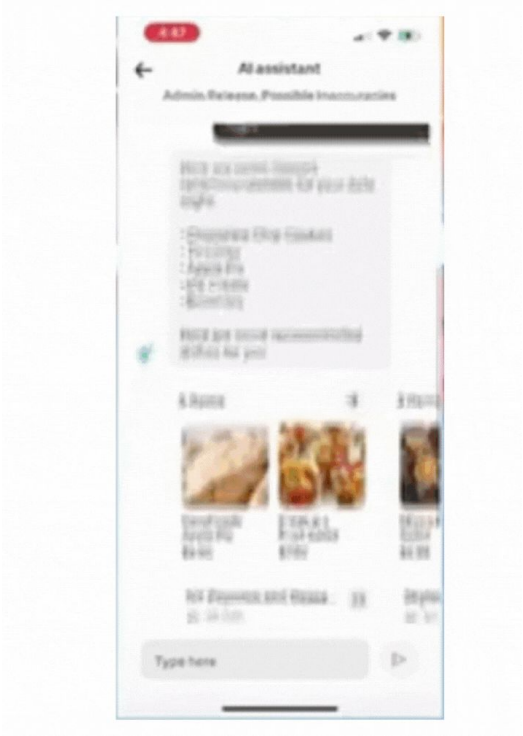
Do transacional para o conversacional

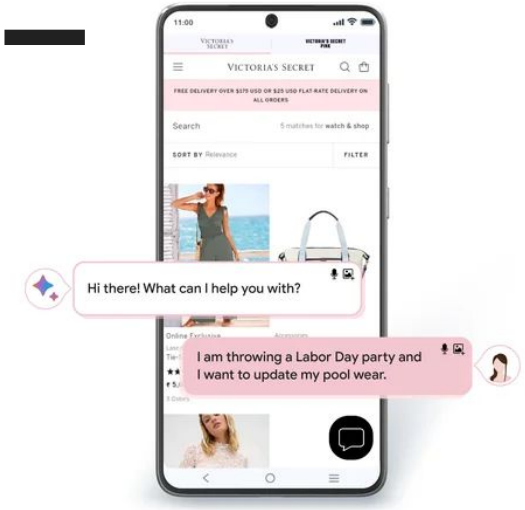


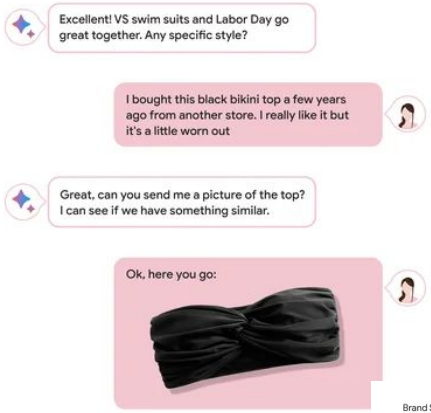
- Automação do serviço drive-through usando um chatbot de inteligência artificial alimentado por software de linguagem natural e treinado para entender as inúmeras maneiras pelas quais os clientes fazem pedidos do cardápio
- Simplifique o processo de pedidos e evite que longas filas nas faixas de drive-thru afastam os clientes

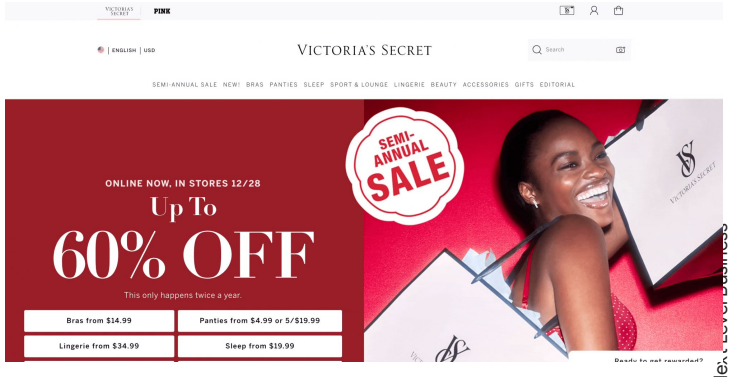


- IA generativa para chatbots de atendimento ao cliente e recursos de assistência ao agente com o objetivo de alcançar maior satisfação do cliente e eficiência de custos.
- Aproveite os sistemas de dados sintéticos (uma técnica para melhorar a qualidade dos LLMs) em áreas como desenvolvimento de produtos, detecção de fraudes e produtividade dos funcionários.

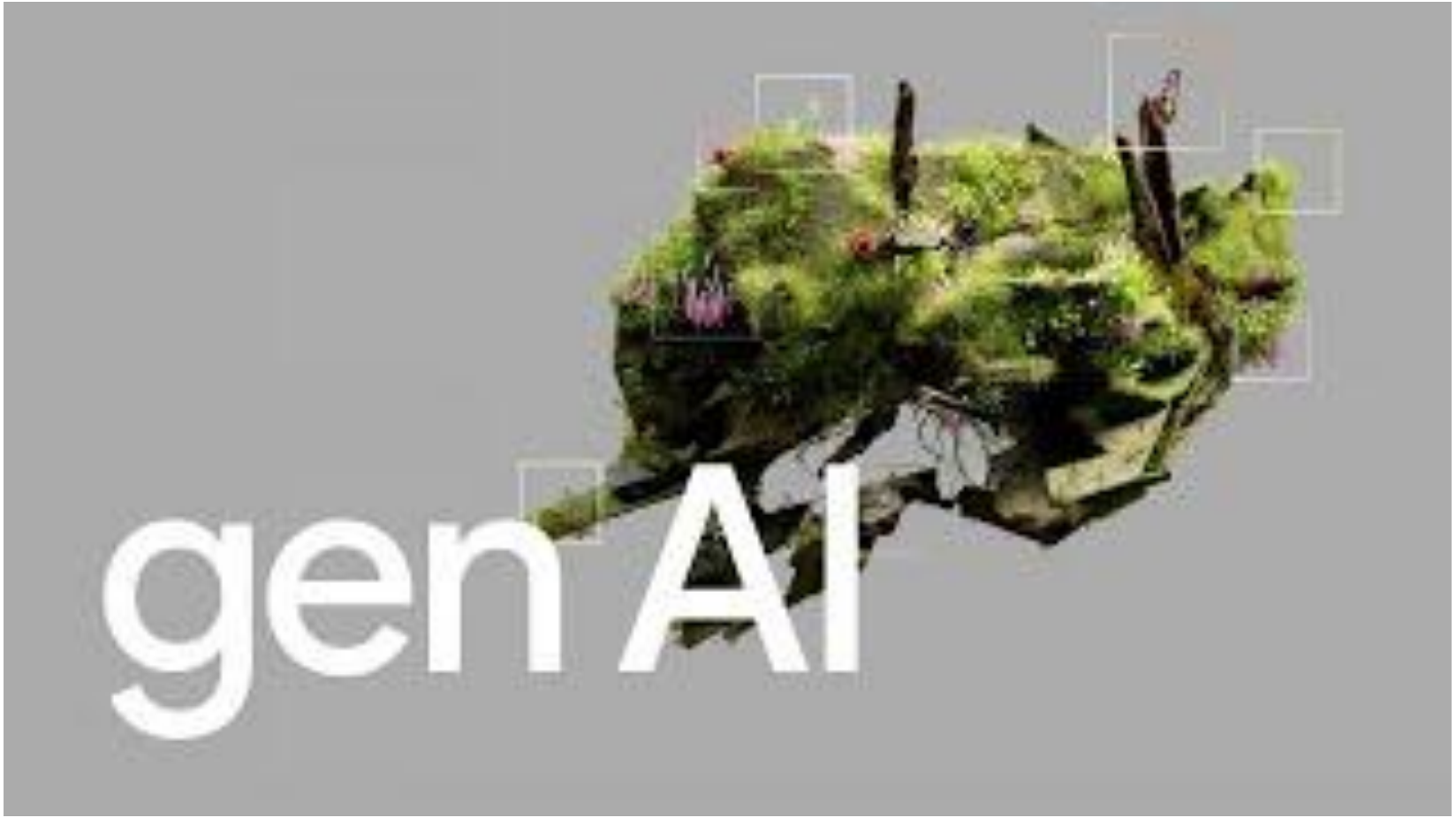








https://blog.google/products/google-cloud/victorias-secret-google-cloud-ai/



Google Cloud

https://cloud.google.com/transform/data-trends-gen-ai-2024-business-innovation

Vertex AI (no GCP)

Capacidades da IA por tipos de dados

Texto

Geração de texto e código

Chatbots e interfaces conversacionais

Resumo de chamada de chat

Pesquisa e recuperação de texto

Tradução em mais de 140 idiomas

Análise de sentimentos

Moderação de conteúdo

Imagem

Geração de imagem

Estilo e edição de imagens

Legendagem de imagens

Perguntas e respostas visuais

Reconhecimento de imagem

Classificação de imagens

Detecção de texto e caligrafia

Detecção de logotipo e pontos de referência

Vídeo

Descrição automática do vídeo

Classificação e rotulagem de vídeo

Reconhecimento de ação de vídeo

Reconhecimento de objetos de vídeo

Geração de metadados de vídeo

Moderação de conteúdo de vídeo

Texto para vídeo
Imagem para vídeo

Documentos

Pesquisa e síntese de documentos

OCR e extração de dados

Processamento e arquivamento de informações

Valide e enriqueça os dados analisados

Integre a revisão de documentos humanamente informada

Áudio

Reconhecimento automático de fala em mais de 140 idiomas

Transcrição de áudio

Extração de insights de dados de áudio

Conversão de texto para fala, incluindo mais de 200 opções de voz

Voz personalizada

Tabela

Consulta via NL Tabela

Classificação binária de evento

Classificação multiclasse

Análise de regressão (quantidade)

Análise de anomalia

Classificação e estimativa de frequência

Previsão

Recomendação

Várias opções de modelo e AutoML

https://developers.google.com/machine-learning/problem-framing/ml-framing?hl=en

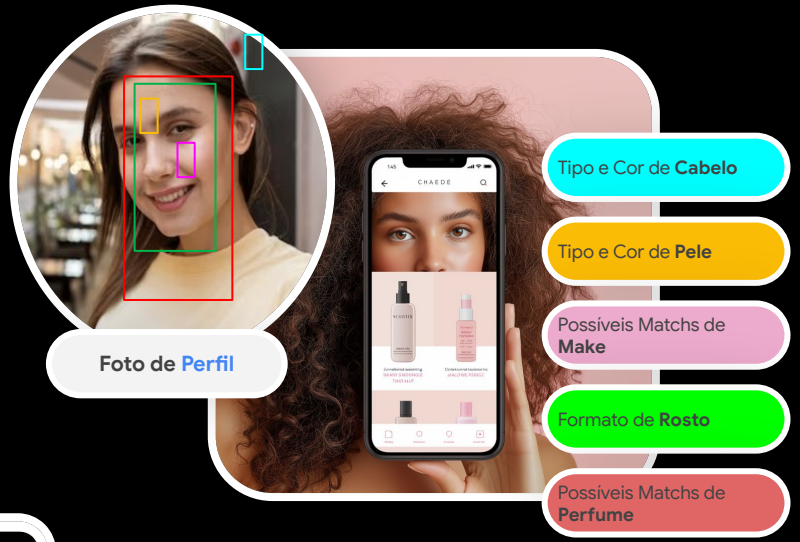
criar

oportunidades

para a beleza

transformar a

vida das pessoas



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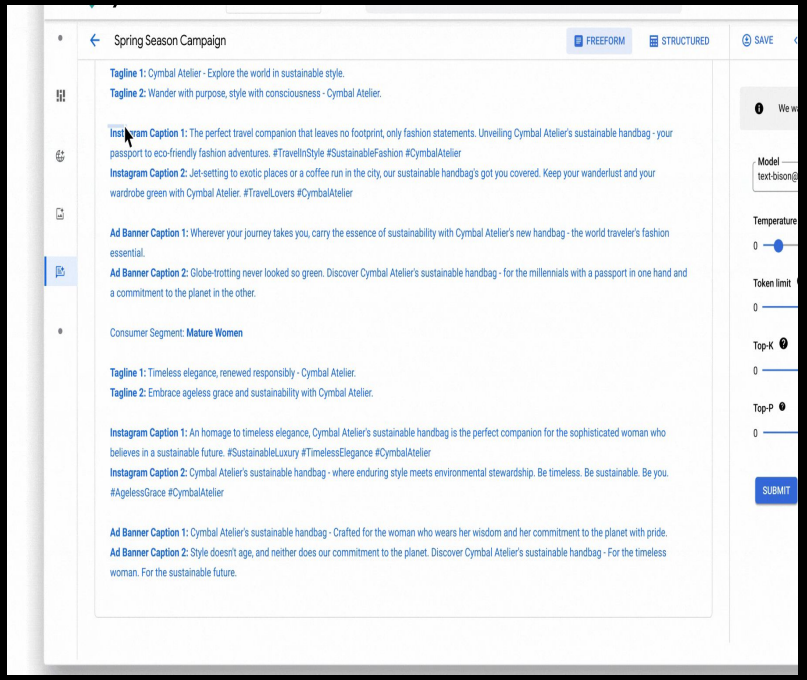
Automatizar a criação de conteúdo

De Video para Blog



De Cluster para campanha baseada em cantor favorito

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Overview

"Blood Donation" is a demo built on Dialogflow CX inspired by the Australian Red Cross Lifeblood eligibility quiz.

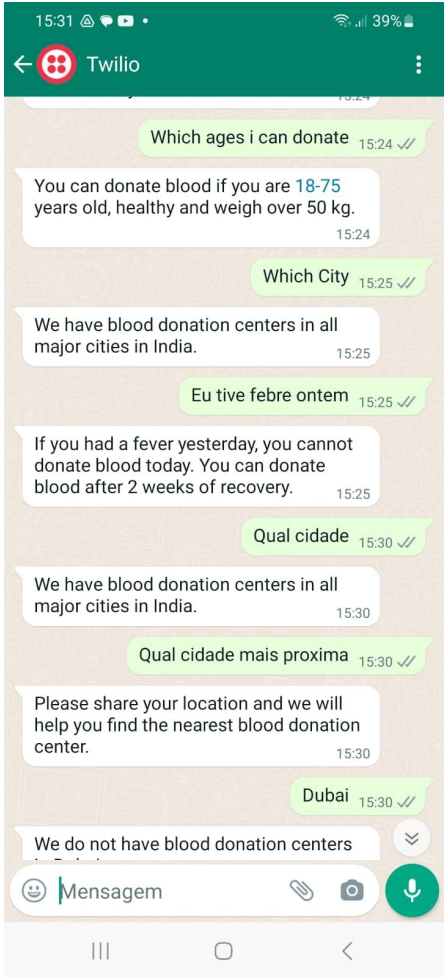
Donate is a helpful and polite chatbot at "Save a life". Its task is to assist people who want to donate blood and ensure they meet the required eligibility requirements.

Take the eligibility quiz or ask Donate FAQs such as: *"What age do I need to be to donate?", "I've just come back from a trip to Africa. Can I donate?", etc...*

Try it yourself! Call (518) 873-4275

Call Now | Chat on WhatsApp

Scan the QR code on mobile and opt-in



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https://generative-chatbots.web.app/

1 Overview

2 Enable APIs

3 Create a new chat app and a data store for your app

4 Configure the agent to answer blood eligibility FAQs

5 Test the agent

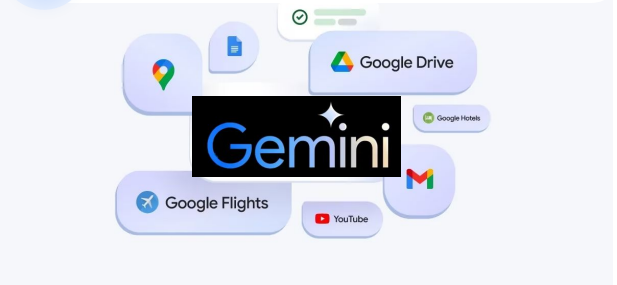
6 Set up the agent for the eligibility quiz

7 Retest your agent

8 Generator prompt tuning

9 **Congratulations**

Consumidores



Google

Generativa

Empresas

Demand Gen e Performance Max

Preditiva

Empresas

Gemini for Google Workspace

Google AI Studio

Generativa

Vertex AI Modules

Generativa + Preditiva

Duet AI for GCP

Generativa

Google Cloud Infrastructure

Ecosistema de AI

Google Cloud

Next Level Business

AI

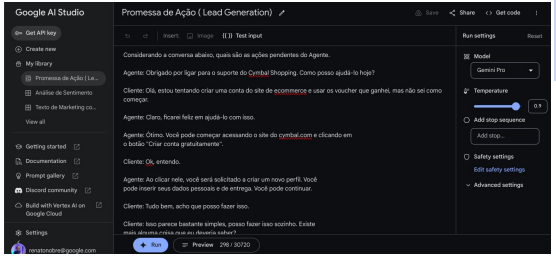
CI&T Google Cloud

Consistent APIs & Upgrade Path

Google AI Studio

Para prototipar

- Ferramenta gratuita para desenvolvedores baseada na web
- Conta do Google/Gmail
- Crie protótipos e inicie aplicativos rapidamente com uma chave de API
- Compartilhamento de dados com o Google para melhoria de modelo e serviço



Vertex AI Studio (no GCP)

Para escalar na sua empresa

- Plataforma de IA pronta para empresas
- Conta da plataforma Google Cloud
- Privacidade de dados, proteção contra indenização, VPC-SC, CMEK, AXT e residência de dados
- Ferramentas para personalizar, aumentar, implantar e controlar modelos

Proprietary + Confidential

Plataforma Vertex AI no Google Cloud

Duet AI

Build your own generative AI-powered agents

AI Solutions
Contact Center | Document | Discovery | Risk | Healthcare

Search

Conversation

AI Platform
Extensions | Connectors | Grounding
Prompt | Serve | Tune | Distill | Eval

Gemini
and 130+ models

Model Garden
Google | OSS | Partner Models

Google Cloud Infrastructure (GPU/TPU) | Google Data Cloud

Business Users

Developers

AI Practitioners

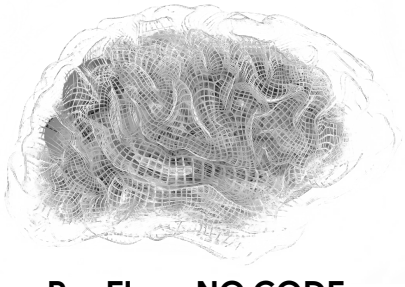
Vertex AI

CIST Google Cloud

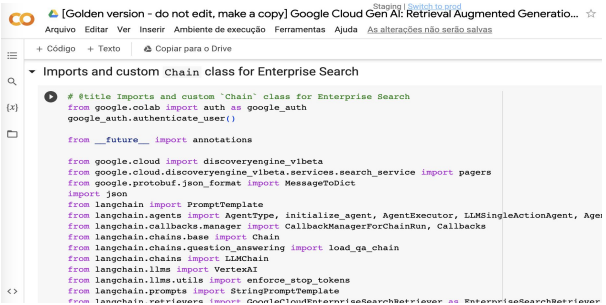
Next Level Business

AI

Democratizar o uso



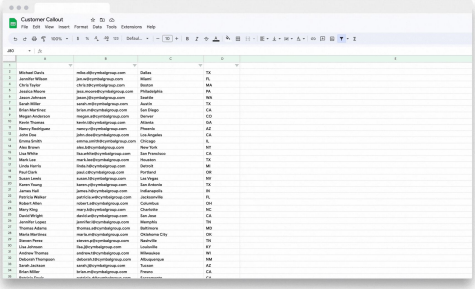
Por Código (Python com API)



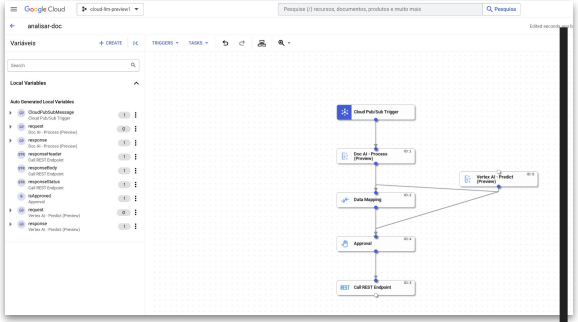
Por SQL (Big Query)

```
CREATE OR REPLACE TABLE semantic_search_tutorial.search_embedding AS (
SELECT
  *
FROM
  ML.GENERATE_TEXT_EMBEDDING(
    MODEL semantic_search_tutorial.embedding_model,
    (SELECT
      "TREES DOWN NEAR THE INTERSECTION OF HIGHWAY" AS content),
      STRUCT(TRUE AS flatten_json_output))
  );
```

Por Google Sheets



Por Fluxo NO CODE (Application integration)



https://cloud.google.com/application-integration/docs/all-triggers-tasks
https://cloud.google.com/application-integration/docs/gcp-tasks/configure-vertex-ai-predict-task

Next Level Business

AI

CIST Google Cloud

Casos de uso comuns

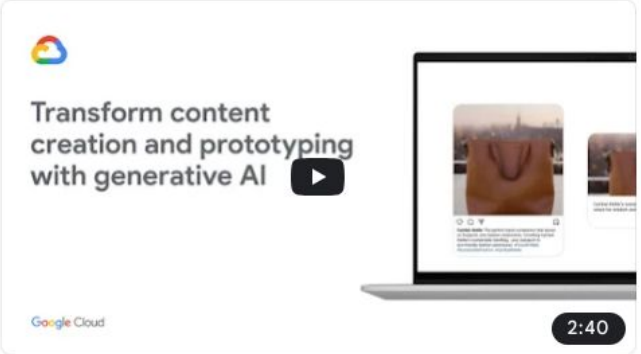
Geração e prototipagem de conteúdo

Tutoriais | Outros recursos

Gerar conteúdo criativo para marketing multicanal

Forneça conteúdo de marketing personalizado para segmentar públicos-alvo com rapidez e baixo custo com IA generativa. Confira como a Generative AI Studio acelera os fluxos de trabalho de peças criativas ao gerar rapidamente imagens e texto para publicidade, mídia social, conteúdo do site, e-mails e muito mais.

Saiba mais sobre o AI Generative



Usos comuns

- Personalizar a descoberta de conteúdo
- Melhoria no catálogo de produtos
- Geração e prototipagem de conteúdo
- Pesquisa e descoberta de informações
- Pesquisa e descoberta da área da saúde
- Melhorar a eficiência do desenvolvedor
- Resumo de documentos

https://cloud.google.com/use-cases/generative-ai?hl=pt_br#common-uses

CIST Google Cloud

GenAI propõe mudanças em todas as funções de negócio em diferentes setores

Marketing	Vendas	Atendimento	Jurídico	Finanças	RH	Produto	IT,Dados
Crie anúncios hiper personalizados	Personalize argumentos de vendas	Responder às dúvidas dos clientes	Revise e sintetize documentos	Projetos de orçamentos e fin. declarações	Gerencie o conhecimento dos funcionários	Criar novas ideias	Criar. Revisar códigos
Gere criativos rapidamente	Crie demonstrações personalizadas	Gere guias de usuário e tutoriais	Converter "jurdiquês" para ptb simples	Previsão de vendas com base em históricos	Rascunhos de descrições de cargos	Revisar ideias existentes	Comentar códigos
Rascunho de resumos da agência	Rascunho de divulgação do cliente	Suporte com recomendações de resolução	Rascunhos de contratos	Rascunho do caso de negócios	Envolva e selecione candidatos	Analisar atributos de produtos existentes	Criar. Revisar Queries
Rascunhos de blogs, white papers, etc.	Predição de preço	Gere painéis para KPIs	Extraia informações importantes	Sumarizar notas	Treinar os membros da equipe	Criar protótipos	Comentar Queries
Propensão de compra, churn, click,etc		Identifique oportunidades de upsell	Crie mensagens de acompanhamento		Criar perguntas para provas		Entender Logs
		Monitorar o sentimento do cliente					Criar Tabelas

Fonte:
https://www.bcg.com/capabilities/artificial-intelligence/generative-ai

Google Cloud

Macro processo de Real Estate

Inteligência de Mercado

- CRM Analítico
- Analitico de negócios
- Monitoramento de Mercado

Atendimento

- SAL
- SAC
- Atendimento Técnico

Vendas

- Gestão Do Real Estate
- Vendas / Ato Da Compra
- Elaboração / Gestão De Contrato

Marketing & Prospecção

- Franquias
- Marketing B2C E B2B
- Prospecção Lojista
- Prospeccao Mall E Midia

Manutenção

- Planej. da Manutencao
- Execução Da Manutenção
- Controle e Gestao

Planejamento orçamentário e Projetos

- Gestão de Orçamento
- Identificação do Projeto
- Implantação do Projeto
- Empréstimo

Recursos Humanos

- Avaliação e Desempenho
- Cargos E Salários
- Integração com folha
- Plano De Metas
- Recrutamento e Seleção
- Treinamento

Contábil,Fiscal & Consolidação

- Ativo Fixo
- Contabilidade
- Fiscal e Tributário
- Consolidação

Financeiro

- Contas a Pagar
- Tesouraria
- Contas a Receber
- Cobrança
- Faturamento Condomínio

Suprimentos

- Cadastro De Serviço / Produto
- Cadastro De Fornecedor
- Negociação
- Ordem De Compra Ou Contrato
- Recebimento Físico e Fiscal

Tecnologia

- Banco De Dados
- Servidor De Aplicação
- Integração
- Gestão de Ambiente
- Mobilidade
- Data Warehouse
- AI Engine / AI Ops

People + AI Research

People + AI Guidebook

Patterns | Chapters | Case Studies | Workshop | Glossary

All patterns (23)

How do I get started with human-centered AI? (5)

When and how should I use AI in my product? (3)

How do I onboard users to new AI features? (4)

How do I explain my AI system to users? (5)

How do I responsibly build my dataset? (6)

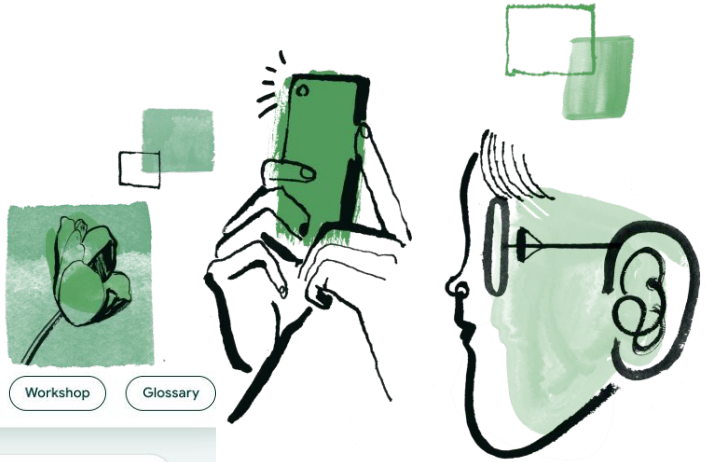
Determine if AI adds value

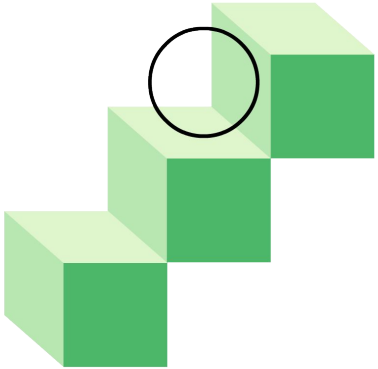
AI is better at some things than others. Make sure that it's the right technology for the user problem you're solving.

Before you start building with AI, make sure the product or feature that you have in mind requires AI, or would be enhanced by it.

AI is well-suited for applications like:

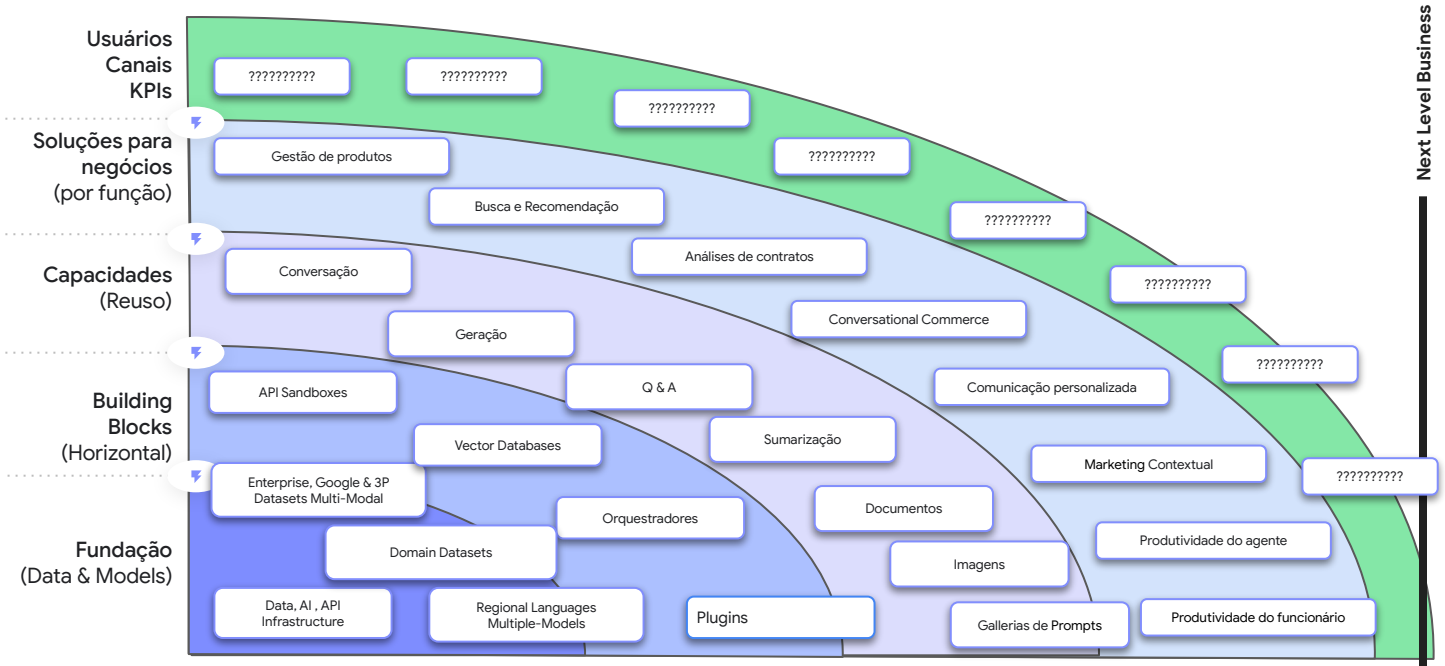
- Recommending different content to different users, such as movie suggestions
- Predicting future events, such as weather events or flight price changes
- Natural language understanding
- Image recognition





https://pair.withgoogle.com/
https://pair.withgoogle.com/guidebook/patterns/how-do-i-get-started
https://pair.withgoogle.com/chapter/user-needs/

Google Cloud AI acelerando as funções de negócio



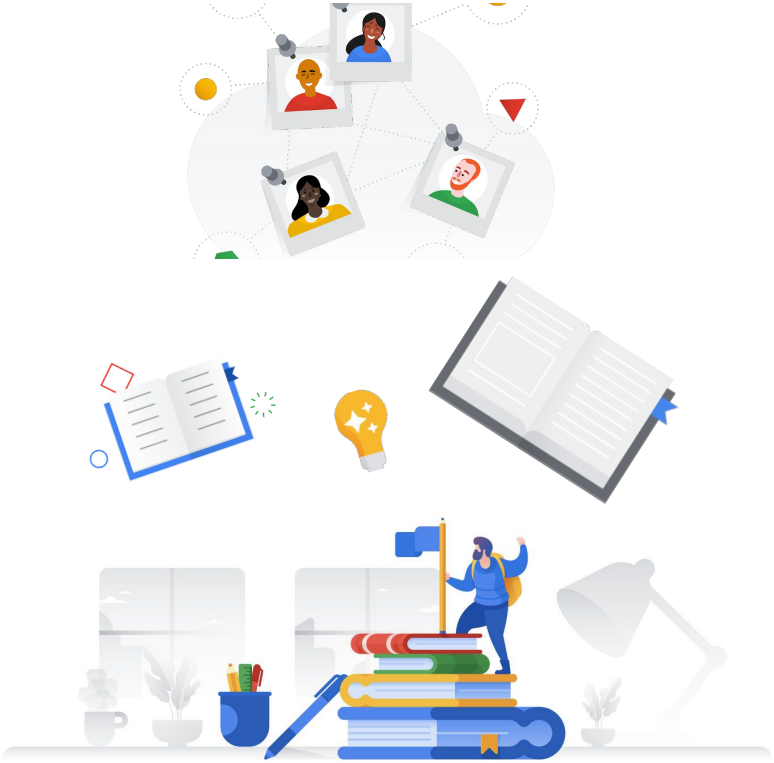
CIST Google Cloud

Clientes já utilizando Generative AI com Google Cloud

CIST Google Cloud

Proprietary + Confidential

Agenda



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CI&T Google Cloud

Fase I - Google AI Studio (protótipos)

Laboratório de GenAI com Google Cloud

1) Acesse o seguinte link e crie uma conta com seu gmail
https://makersuite.google.com/app/prompts/new_freeform

Vamos rodar diferentes cenários com uso do Google AI Studio para perceber a facilidade de uso para acelerar as funções de negócios da sua empresa.

A) Lead Generation e sumário de atendimento

Promessa de Ação (Lead Generation)

Crie um novo prompt do tipo FreeForm com o seguinte texto:

Link

A) Lead Generation e sumário de atendimento
B) Argumento de vendas com imagem (prompt multimodal)
C) Análise de vídeo
D) Análise de imagem
E) Recomendação de produtos
F) Lista de Produtos com benefícios (prompt multimodal)
G) Texto para Campanha de marketing (com exemplos)
H) Análise de sentimento e classificação
I) Chat com ecommerce do Google Store
J) Interação por voz ou chat ou whatsapp
K) Busca de itens por imagem e por texto

Fase I - Google AI Studio (protótipos)

Google AI Studio

Get API key
Create new
My library
Promessa de Ação (Le...
Análise de Sentimento
Texto de Marketing co...
View all

Getting started
Documentation
Prompt gallery
Discord community
Build with Vertex AI on Google Cloud

Settings
renatonobre@google.com

Promessa de Ação (Lead Generation)

Save | Share | Get code

Insert: Image {{ }} Test input

Considerando a conversa abaixo, quais são as ações pendentes do Agente.

Agente: Obrigado por ligar para o suporte do Cymbal Shopping. Como posso ajudá-lo hoje?

Cliente: Olá, estou tentando criar uma conta do site de ecommerce e usar os voucher que ganhei, mas não sei como começar.

Agente: Claro, ficarei feliz em ajudá-lo com isso.

Agente: Ótimo. Você pode começar acessando o site do cymbal.com e clicando em o botão "Criar conta gratuitamente".

Cliente: Ok, entendo.

Agente: Ao clicar nele, você será solicitado a criar um novo perfil. Você pode inserir seus dados pessoais e de entrega. Você pode continuar.

Cliente: Tudo bem, acho que posso fazer isso.

Cliente: Isso parece bastante simples, posso fazer isso sozinho. Existe mais alguma coisa que eu deveria saber?

Run settings | Reset

Model
Gemini Pro

Temperature
0.9

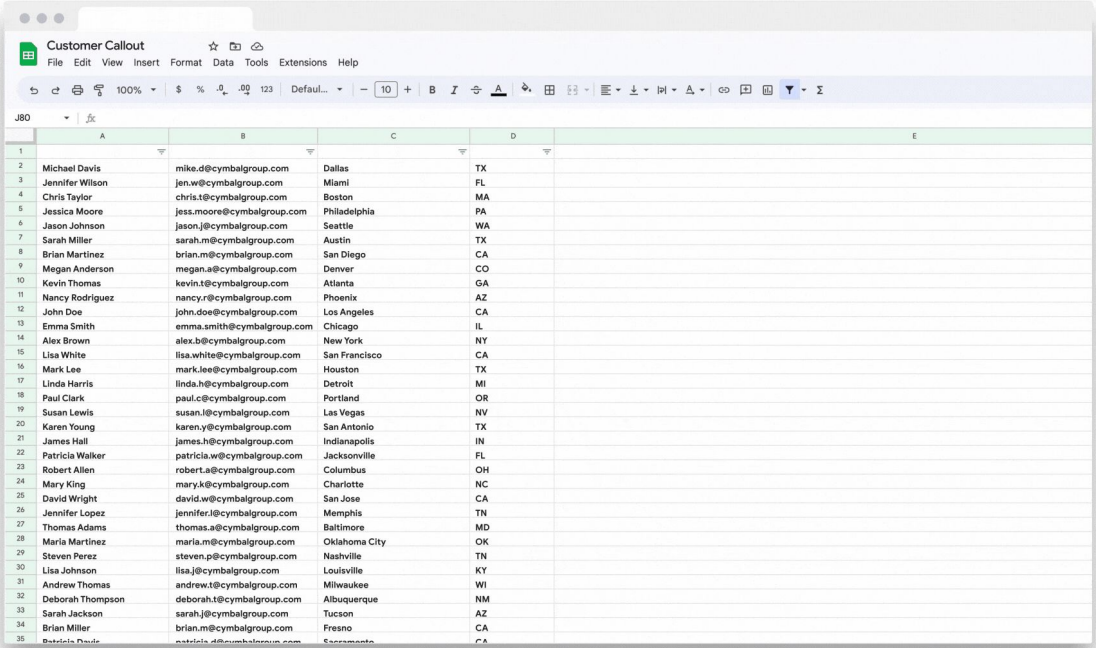
Add stop sequence
Add stop...

Safety settings
Edit safety settings

Advanced settings

Run | Preview 298 / 30720

Fase I - Google AI Studio (protótipos com Sheets & App script)



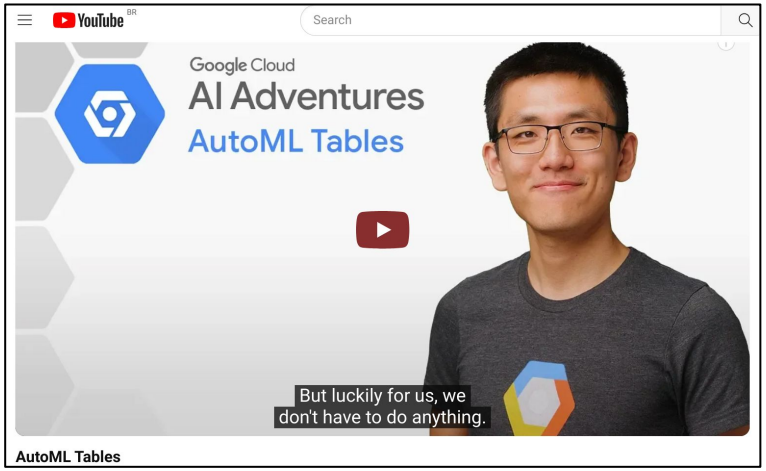
	A	B	C	D
2	Michael Davis	mike.d@cymbalgroup.com	Dallas	TX
3	Jennifer Wilson	jen.w@cymbalgroup.com	Miami	FL
4	Chris Taylor	chris.t@cymbalgroup.com	Boston	MA
5	Jessica Moore	jess.moore@cymbalgroup.com	Philadelphia	PA
6	Jason Johnson	jason.j@cymbalgroup.com	Seattle	WA
7	Sarah Miller	sarah.m@cymbalgroup.com	Austin	TX
8	Brian Martinez	brian.m@cymbalgroup.com	San Diego	CA
9	Megan Anderson	megan.a@cymbalgroup.com	Denver	CO
10	Kevin Thomas	kevin.t@cymbalgroup.com	Atlanta	GA
11	Nancy Rodriguez	nancy.r@cymbalgroup.com	Phoenix	AZ
12	John Doe	john.doe@cymbalgroup.com	Los Angeles	CA
13	Emma Smith	emma.smith@cymbalgroup.com	Chicago	IL
14	Alex Brown	alex.b@cymbalgroup.com	New York	NY
15	Lisa White	lisa.white@cymbalgroup.com	San Francisco	CA
16	Mark Lee	mark.lee@cymbalgroup.com	Houston	TX
17	Linda Harris	linda.h@cymbalgroup.com	Detroit	MI
18	Paul Clark	paul.c@cymbalgroup.com	Portland	OR
19	Susan Lewis	susan.l@cymbalgroup.com	Las Vegas	NV
20	Karen Young	karen.y@cymbalgroup.com	San Antonio	TX
21	James Hall	james.h@cymbalgroup.com	Indianapolis	IN
22	Patricia Walker	patricia.w@cymbalgroup.com	Jacksonville	FL
23	Robert Allen	robert.a@cymbalgroup.com	Columbus	OH
24	Mary King	mary.k@cymbalgroup.com	Charlotte	NC
25	David Wright	david.w@cymbalgroup.com	San Jose	CA
26	Jennifer Lopez	jennifer.l@cymbalgroup.com	Memphis	TN
27	Thomas Adams	thomas.a@cymbalgroup.com	Baltimore	MD
28	Maria Martinez	maria.m@cymbalgroup.com	Oklahoma City	OK
29	Steven Perez	steven.p@cymbalgroup.com	Nashville	TN
30	Lisa Johnson	lisa.j@cymbalgroup.com	Louisville	KY
31	Andrew Thomas	andrew.t@cymbalgroup.com	Milwaukee	WI
32	Deborah Thompson	deborah.t@cymbalgroup.com	Albuquerque	NM
33	Sarah Jackson	sarah.j@cymbalgroup.com	Tucson	AZ
34	Brian Miller	brian.m@cymbalgroup.com	Fresno	CA

https://docs.google.com/spreadsheets/d/1OQPBpPKnB7AIPgScxYKS7_NhX1HLOLewbR1WTp6K6Rg/copy

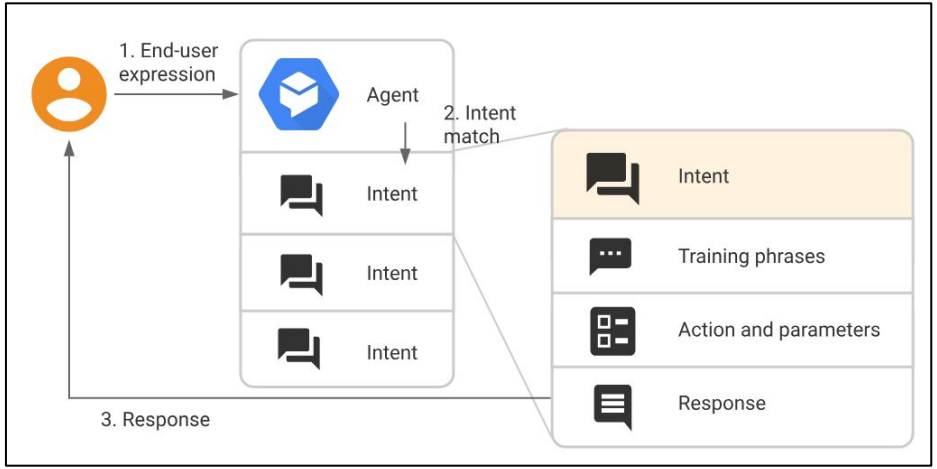
CI&T Google Cloud

Fase II - Google Vertex AI (Qwick Labs)

IA Preditiva



IA Generativa

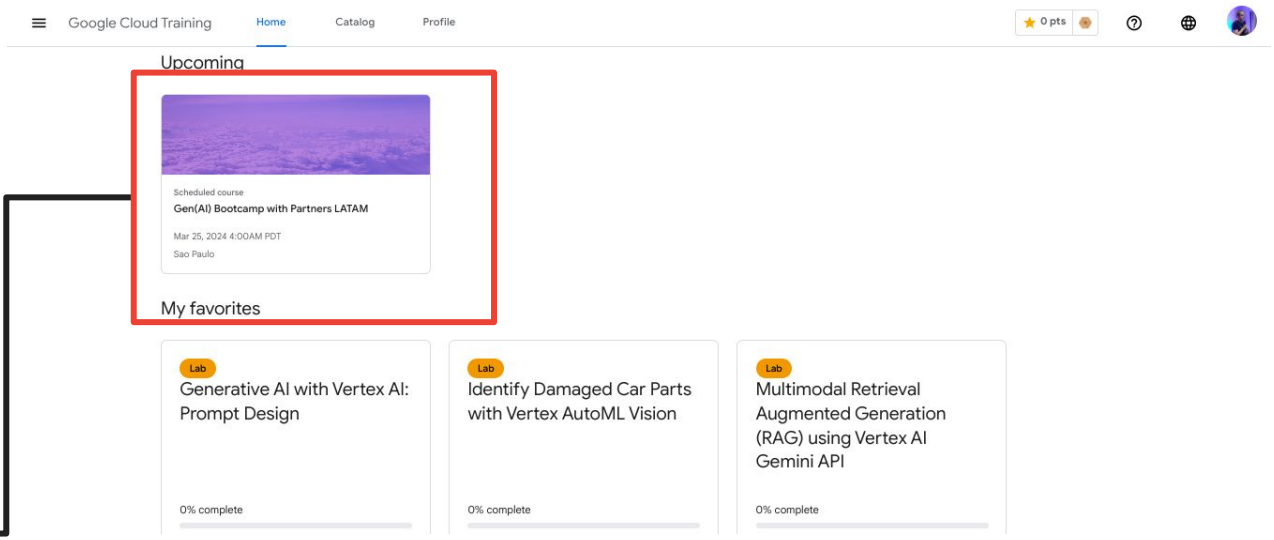


https://explore.qwiklabs.com/

Acessar:

https://explore.qwiklabs.com

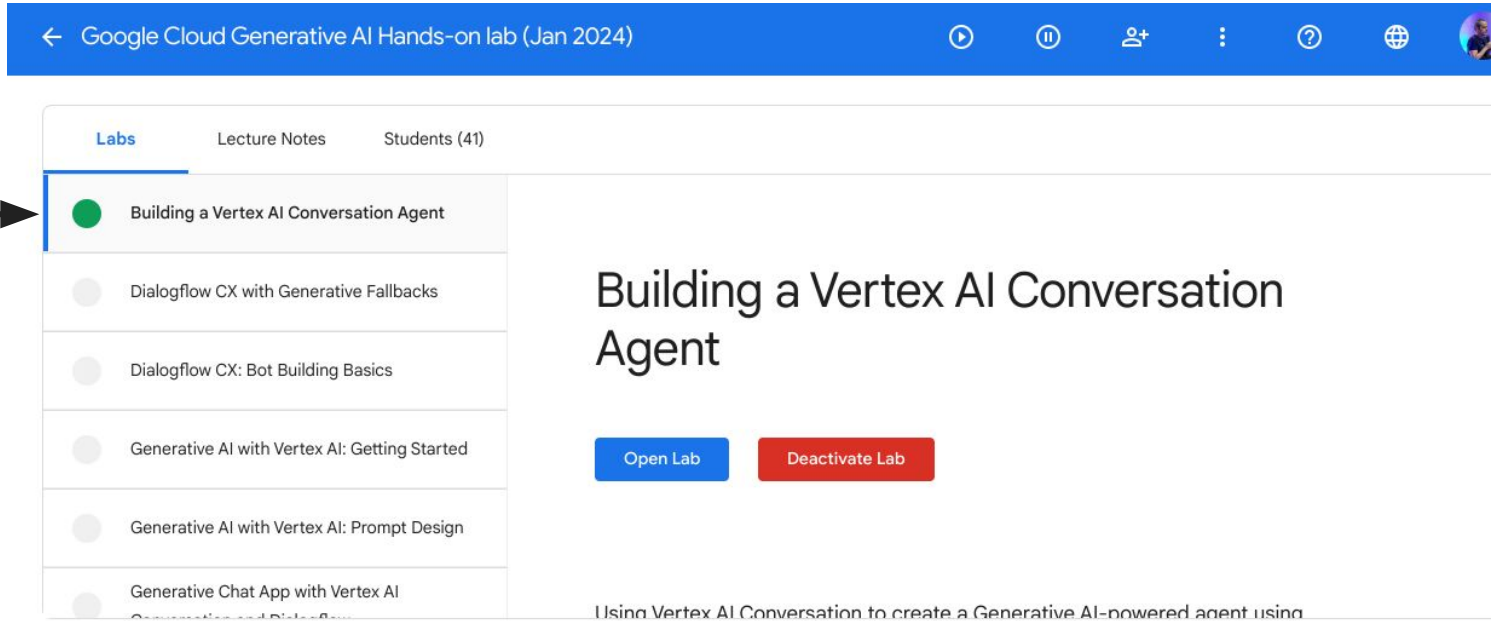
Sign in com seu email, crie uma senha



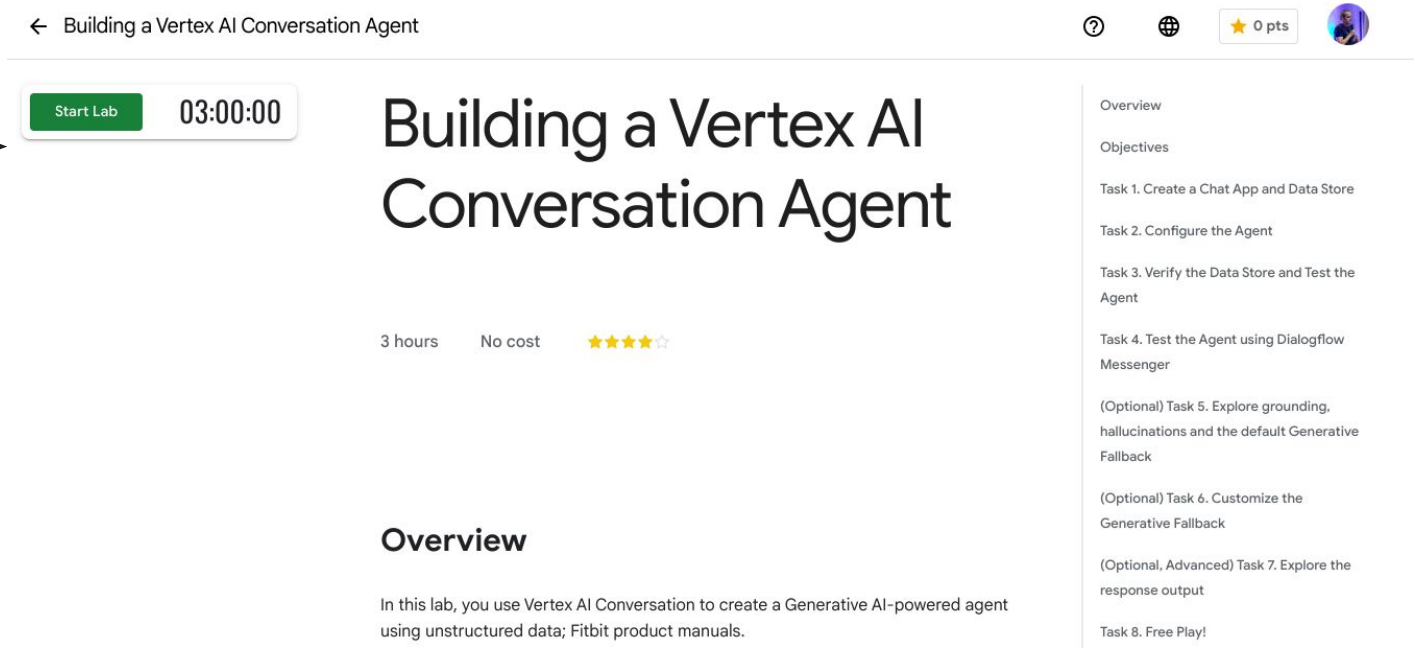
Escolha o lab

CIST Google Cloud

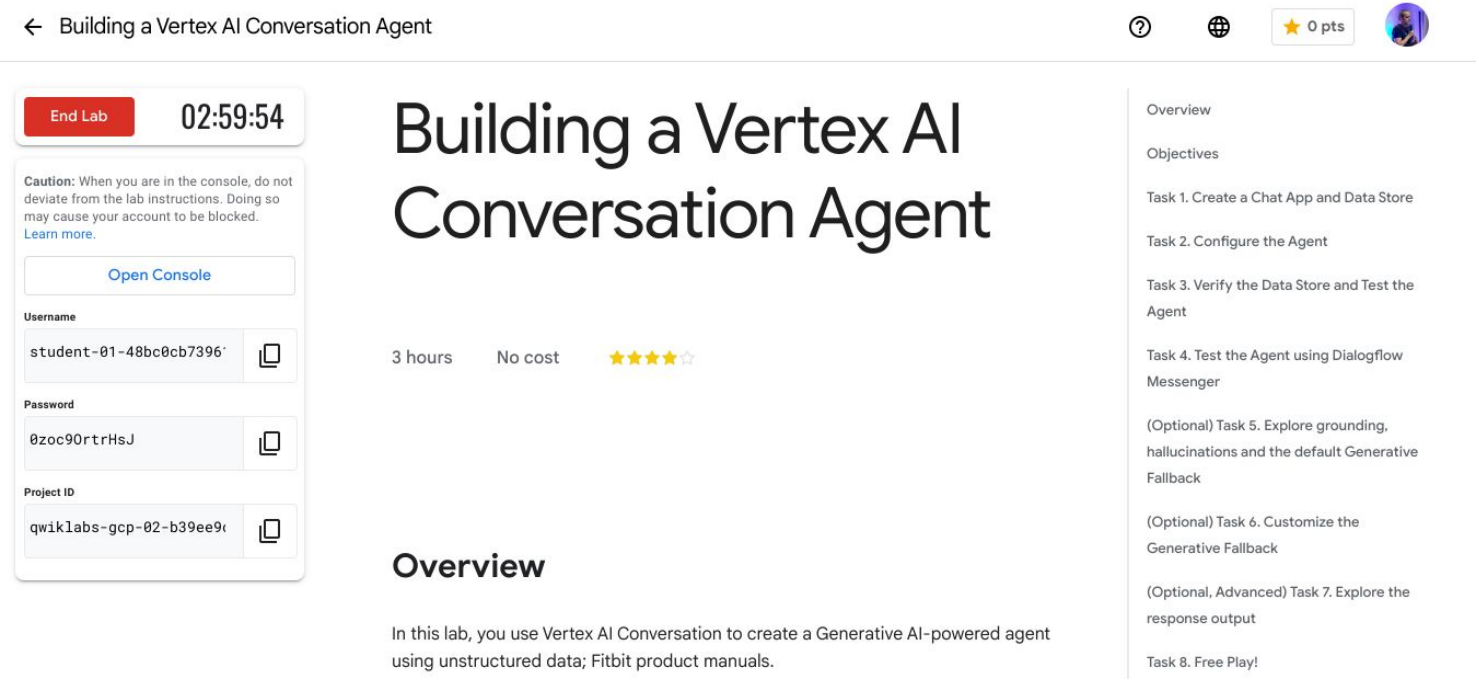
Escolha o labs que está disponível



Clique "Start Lab"

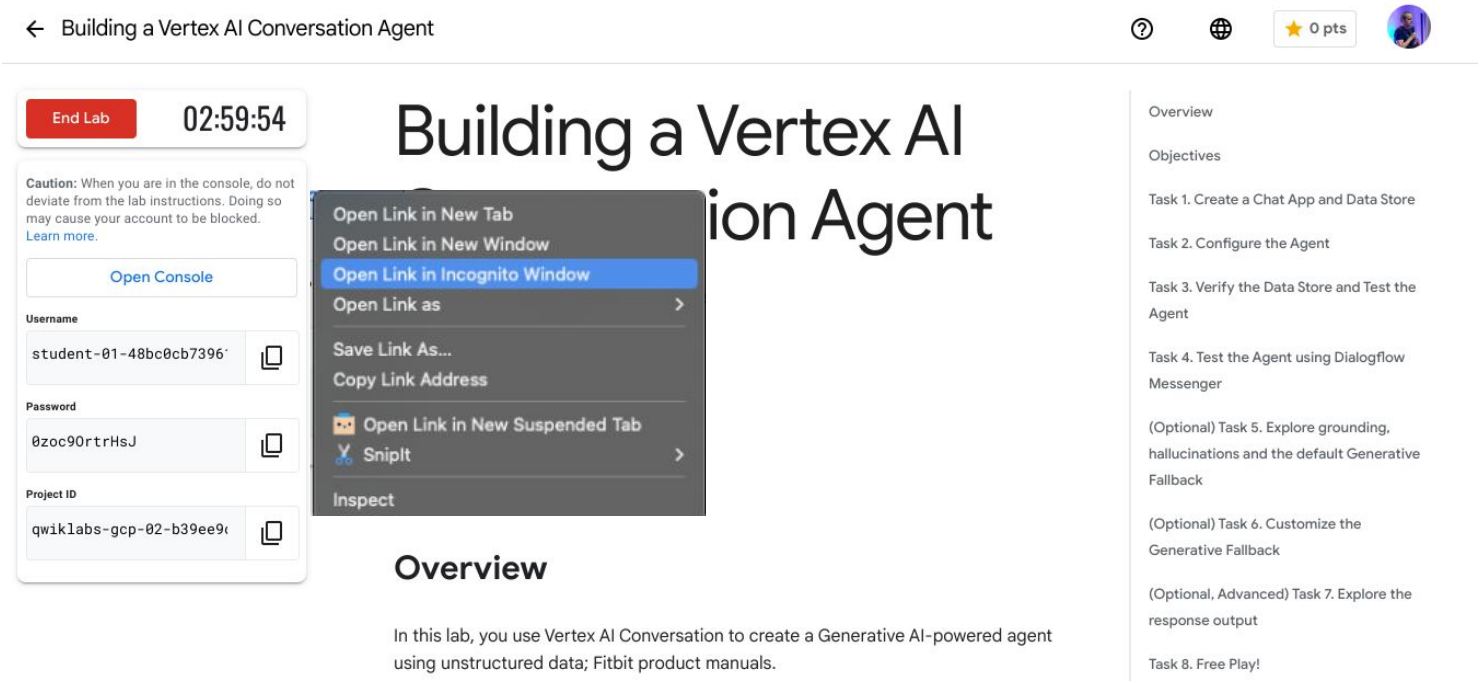


Depois de provisionado os dados de conexão estarão prontos



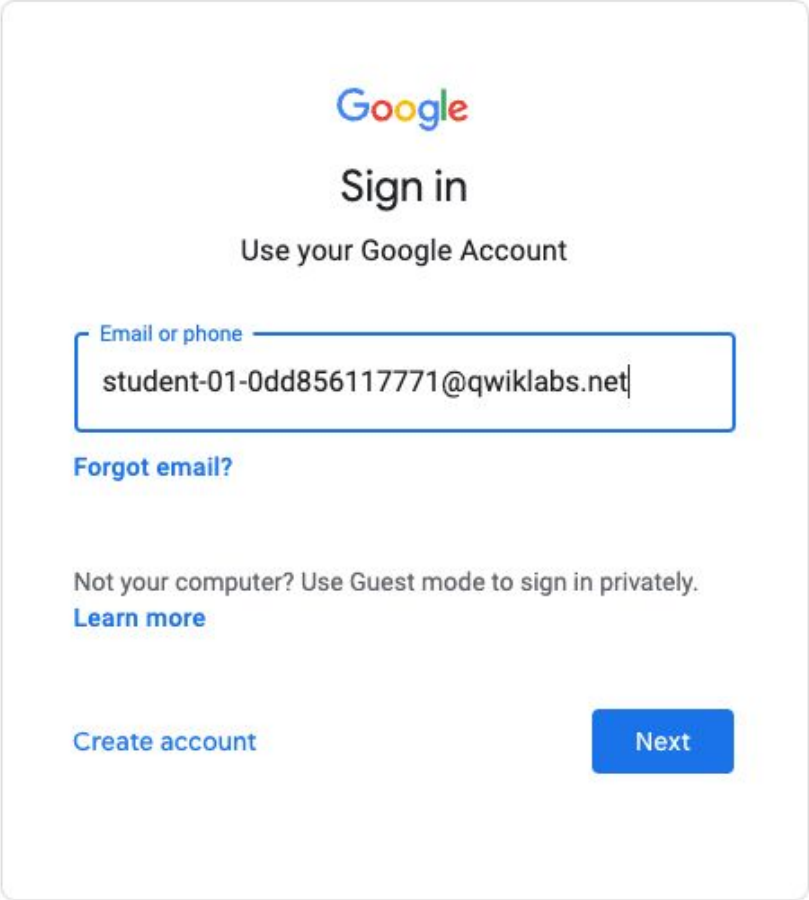
CIST Google Cloud

Abrir uma nova página a partir do botão Open Console em aba anônima

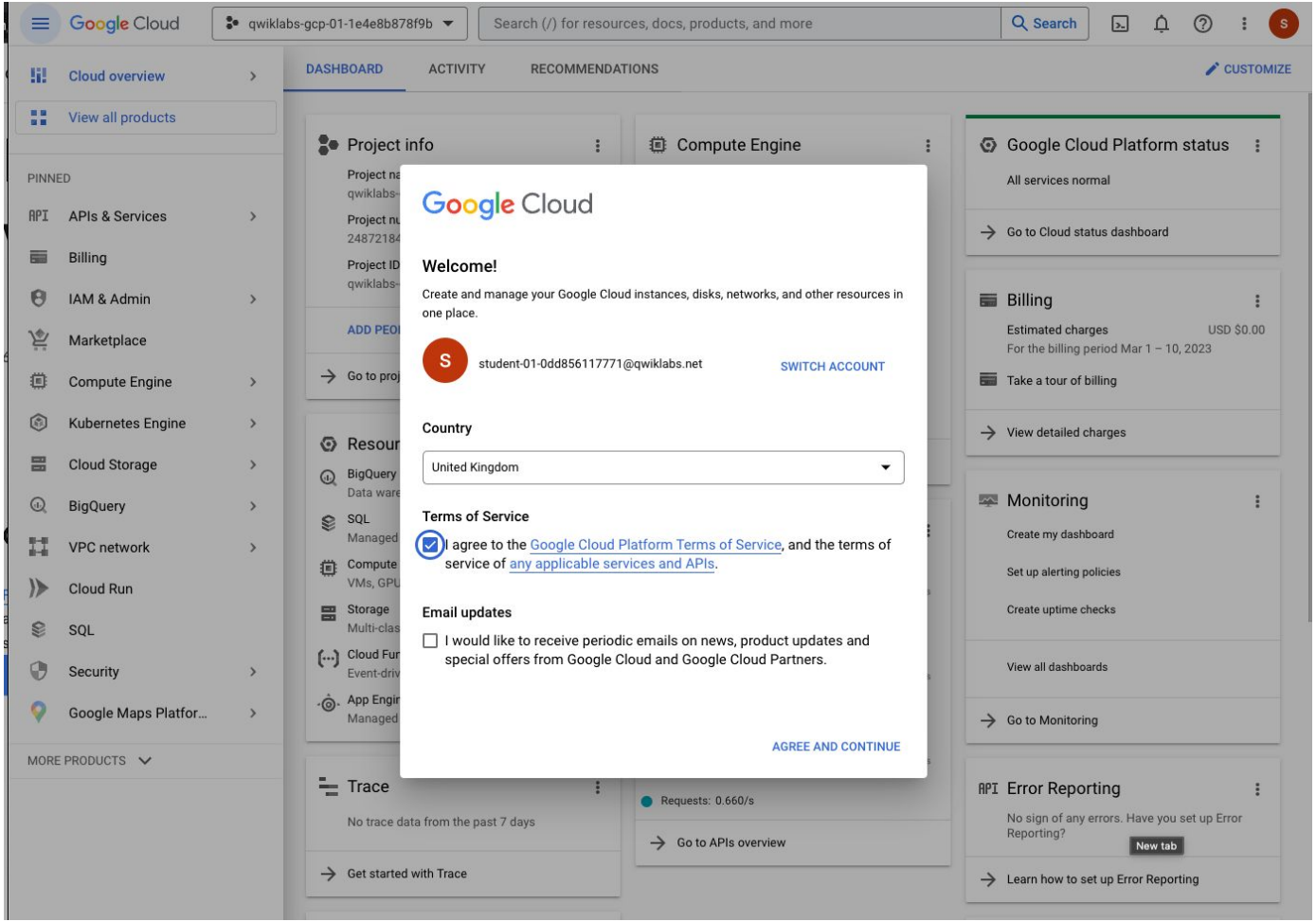


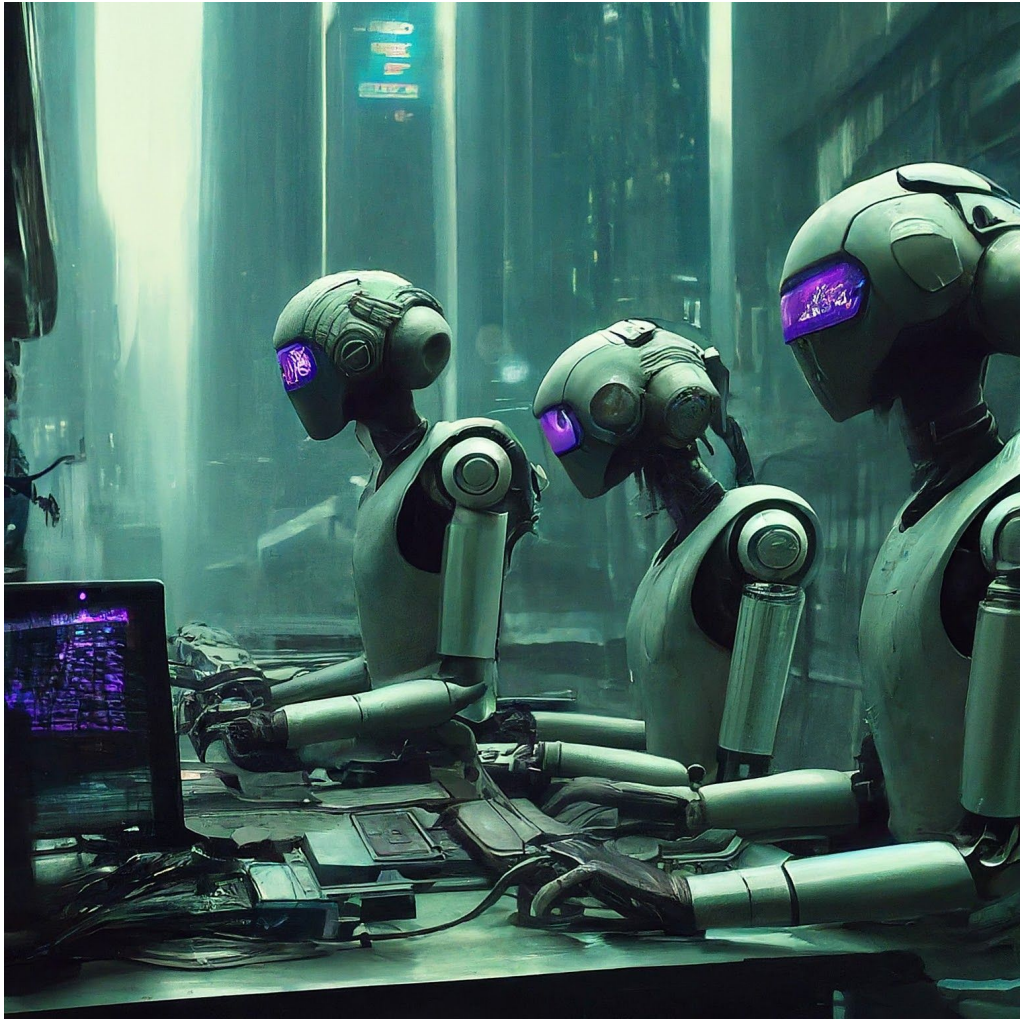
CIST Google Cloud

Use as credenciais do passo anterior



No console do GCP, aceite os T&S.



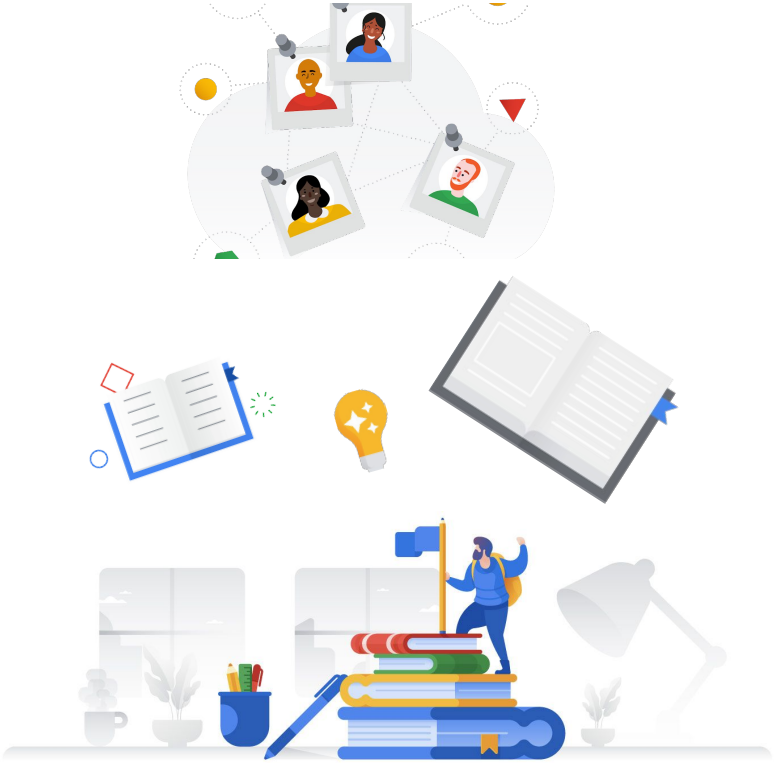


Siga os passos do Labs escolhido

CI&T Google Cloud

Proprietary + Confidential

Agenda



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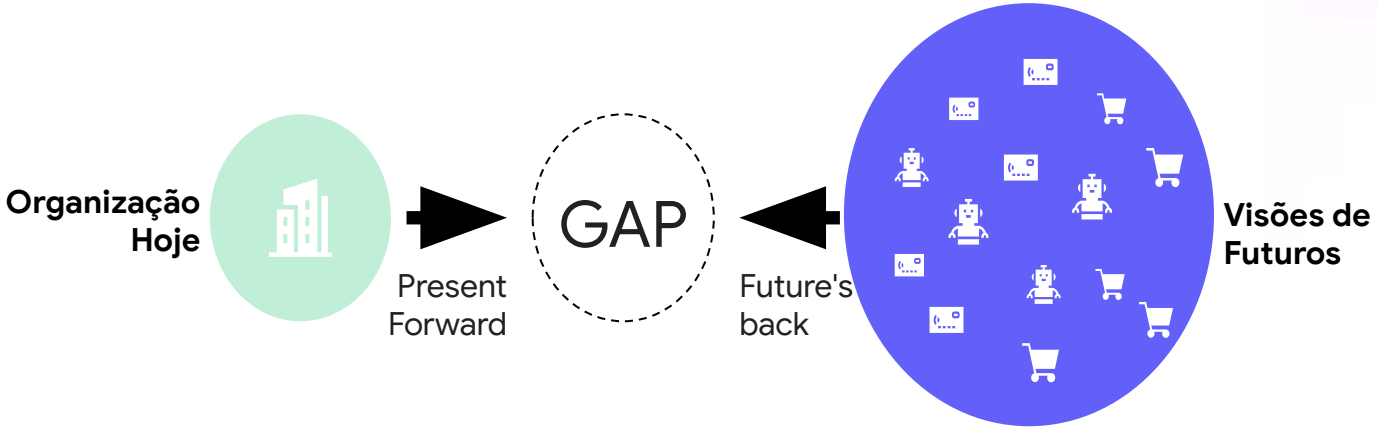
CI&T Google Cloud

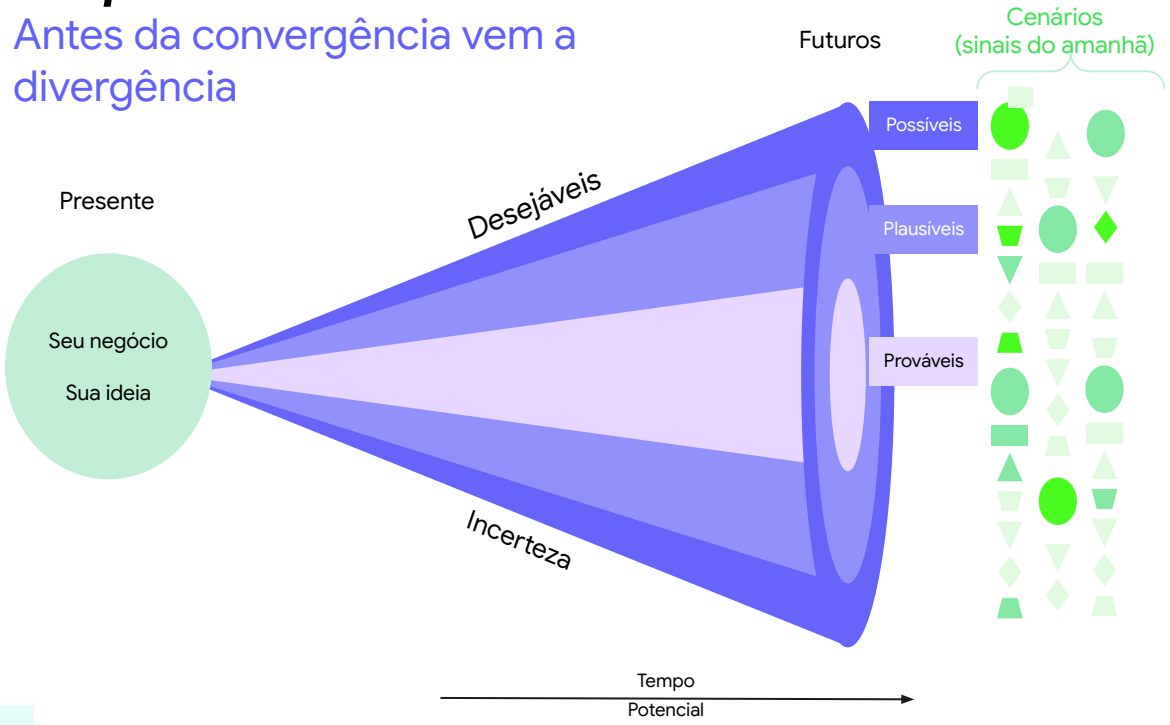
Prompt:

Qual o futuro do negócio com base nas capacidades da AI?



Response:

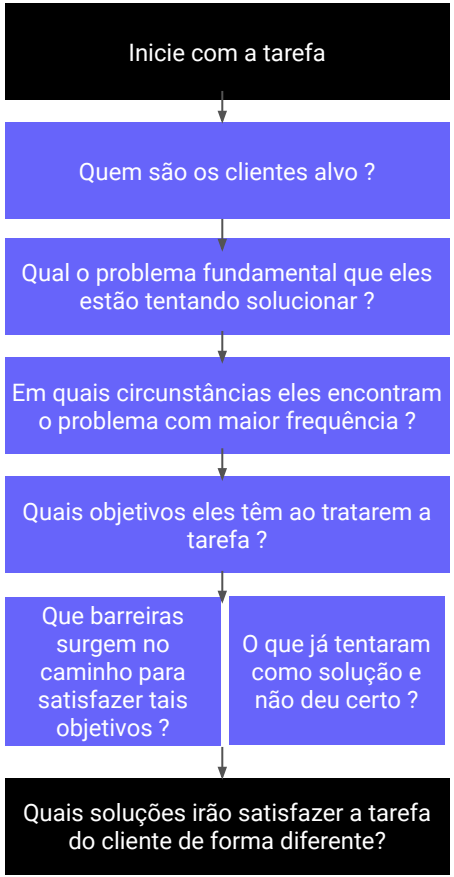
Antes da convergência vem a divergência

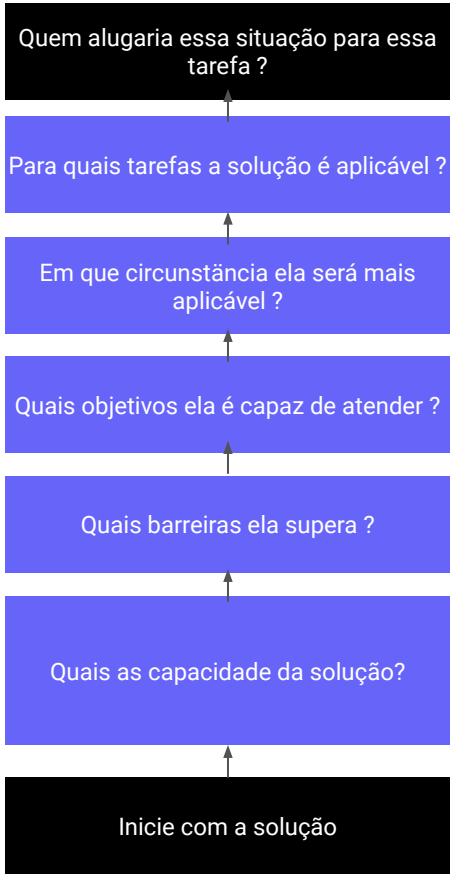


"Precisamos ir além do provável"

CIAT Google Cloud

Identificação de oportunidades por diferentes pontos de partida

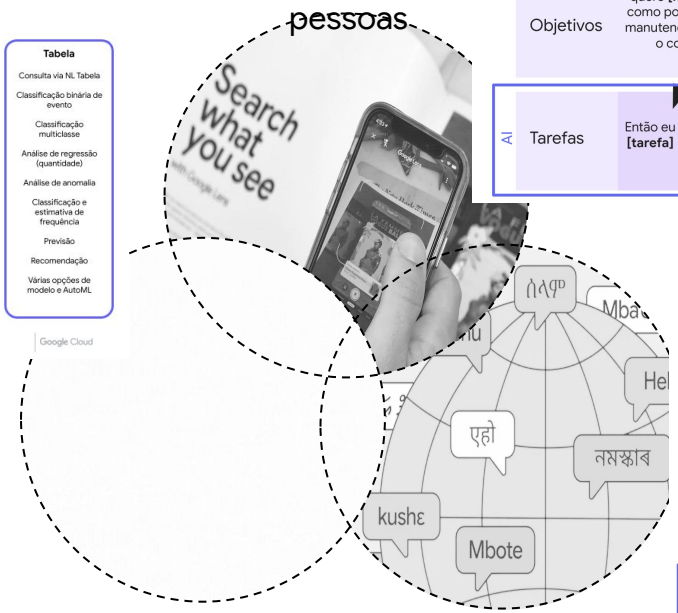


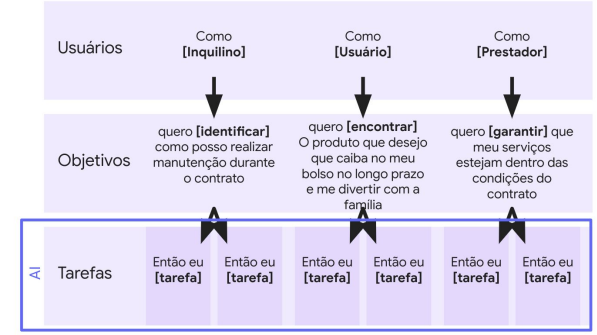


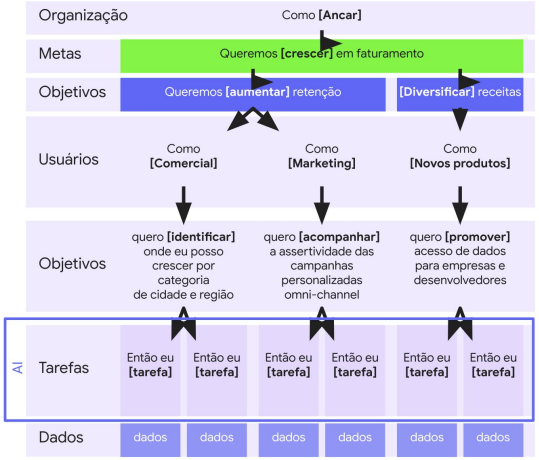
CIST Google Cloud

Capacidades da IA por tipos de dados

Texto	Imagem	Vídeo	Documentos	Áudio	Tabela
Geração de texto e código	Geração de imagem	Descrição automática do vídeo	Pesquisa e síntese de documentos	Reconhecimento automático de fala em mais de 140 idiomas	Consulta via NL Tabela
Chatbots e interfaces conversacionais	Estilo e edição de imagens	Classificação e rotulagem de vídeo	OCR e extração de dados	Transcrição de áudio	Classificação binária de evento
Resumo de chamada de chat	Legendagem de imagens	Reconhecimento de ação de vídeo	Processamento e arquivamento de informações	Extração de insights de dados de áudio	Classificação multiclasse
Pesquisa e recuperação de texto	Perguntas e respostas visuais	Reconhecimento de objetos de vídeo	Valide e enriqueça os dados analisados	Conversão de texto para fala, incluindo mais de 200 opções de voz	Análise de regressão (quantidade)
Tradução em mais de 140 idiomas	Reconhecimento de imagem	Geração de metadados de vídeo	Integre a revisão de documentos humanamente informada	Voz personalizada	Análise de anomalia
Análise de sentimentos	Classificação de imagens	Moderação de conteúdo de vídeo			Classificação e estimativa de frequência
Moderação de conteúdo	Detecção de texto e caligrafia				Previsão
	Detecção de logotipo e pontos de referência				Recomendação
					Várias opções de modelo e AutoML







Next Level Business

AI

Google Cloud

Quais processos a (Gen)AI pode potencializar a inovação ?

EMERGING

Casos de uso **Verticais**

Tecnologia	Media & Telecom	Consumer & Retail	Life Sciences & Healthcare	Banking & Fin. Services	Industrial & Manufacturing	Government & Public Sector
Personalized AR/VR Experience Generation	Interactive Streaming & User Engagement	Conversational eCommerce & Retail	AR/VR Content Generation for Digital Therapy	Fraud Simulation & Pattern Detection	Generative AR/VR Product design	Academic 24/7 Office Hours Virtual Assistant
Personalized & Automated UI/UX Design	Trailer Generation & Feedback Curation	Customized Product Design & Recommendation	Predictive & Virtual Patient Triage	Tax and Compliance Audit & Scenario Testing	Generative Simulation & Safety Testing	Infrastructure Mapping & Planning
Synthetic Outage / Threat Simulation for Testing	Script/Score Design & Subtitle Generation	Product Details & Photography Generation	Protein Sequence Modeling for Drug Discovery	Personalized Virtual Financial Advisor	Text-to-Simulation Product Design & Development	Predictive Policing & Emergency Response
Autonomous Code Generation & Completions	Personalized News & Content Generation	Digital Shopping Assistant & Exp. Management	Genomic Analysis for Personalized Therapy Plans	End-to-end Automated Claims Processing	Automated Technical Equipment Training	Personalized Academic Planning & Testing
Automated Debugging & Issue Resolution	Personalized Wired/Wireless Phone Plans	Personal Travel & Logistics Assistant	Diagnostic Decision Support & Report Generation	Financial Reporting Analysis & Insight Generation	Generative Automation for Smart Factories	NLP-based Administrative Processing

MADUROS

Horizontal

Generative Product / Offering Design	Self-serve HR & IT functions	End-to-end Automated Customer Service	Accessibility Support (text-to-speech & speech-to-text)	Social Media Marketing Campaign Generation
Enterprise Search & Knowledge Management	Text Summarization & Image Generation	Marketing / Sales Content Generation	Customer Feedback Sentiment Classification	Market Research Acceleration

Internal - The Impact of Generative AI in the Enterprise

CIAT Google Cloud

Vertex AI (no GCP)

Capacidades da IA por tipos de dados

Texto

Geração de texto e código

Chatbots e interfaces conversacionais

Resumo de chamada de chat

Pesquisa e recuperação de texto

Tradução em mais de 140 idiomas

Análise de sentimentos

Moderação de conteúdo

Imagem

Geração de imagem

Estilo e edição de imagens

Legendagem de imagens

Perguntas e respostas visuais

Reconhecimento de imagem

Classificação de imagens

Detecção de texto e caligrafia

Detecção de logotipo e pontos de referência

Vídeo

Descrição automática do vídeo

Classificação e rotulagem de vídeo

Reconhecimento de ação de vídeo

Reconhecimento de objetos de vídeo

Geração de metadados de vídeo

Moderação de conteúdo de vídeo

Texto para vídeo
Imagem para vídeo

Documentos

Pesquisa e síntese de documentos

OCR e extração de dados

Processamento e arquivamento de informações

Valide e enriqueça os dados analisados

Integre a revisão de documentos humanamente informada

Áudio

Reconhecimento automático de fala em mais de 140 idiomas

Transcrição de áudio

Extração de insights de dados de áudio

Conversão de texto para fala, incluindo mais de 200 opções de voz

Voz personalizada

Tabela

Consulta via NL Tabela

Classificação binária de evento

Classificação multiclasse

Análise de regressão (quantidade)

Análise de anomalia

Classificação e estimativa de frequência

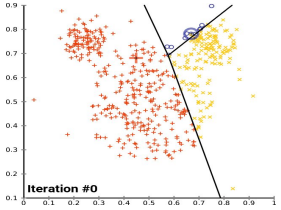
Previsão

Recomendação

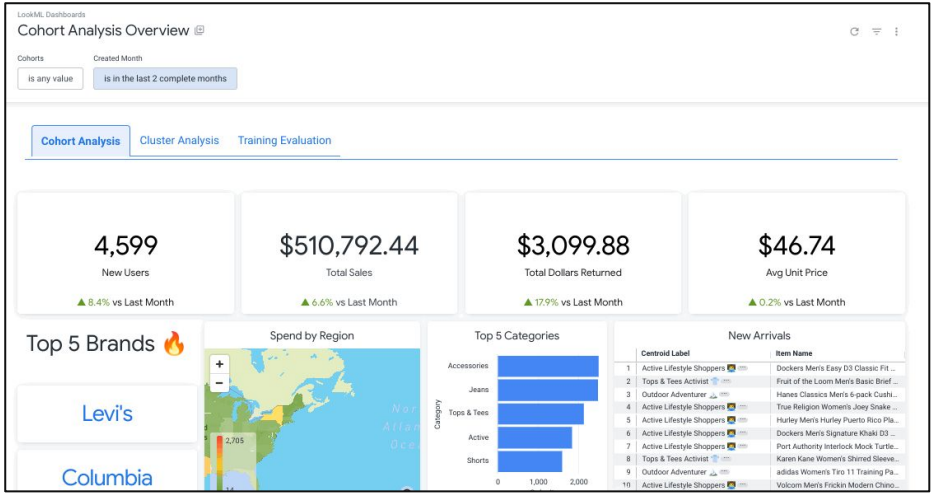
Várias opções de modelo e AutoML

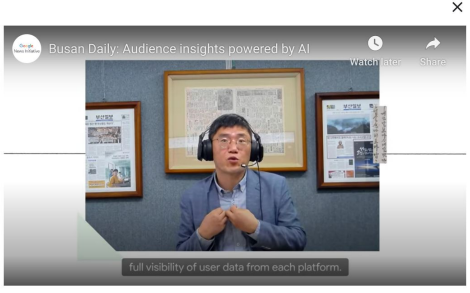
CIST Google Cloud

IA Preditiva com dados estruturados (Tabelas)



Identificar grupos de usuários por comportamentos

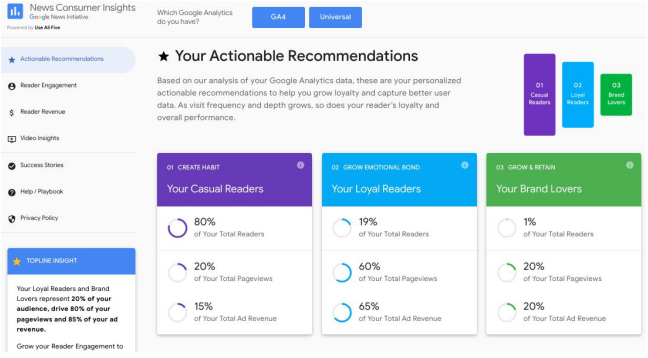




Estudos de caso

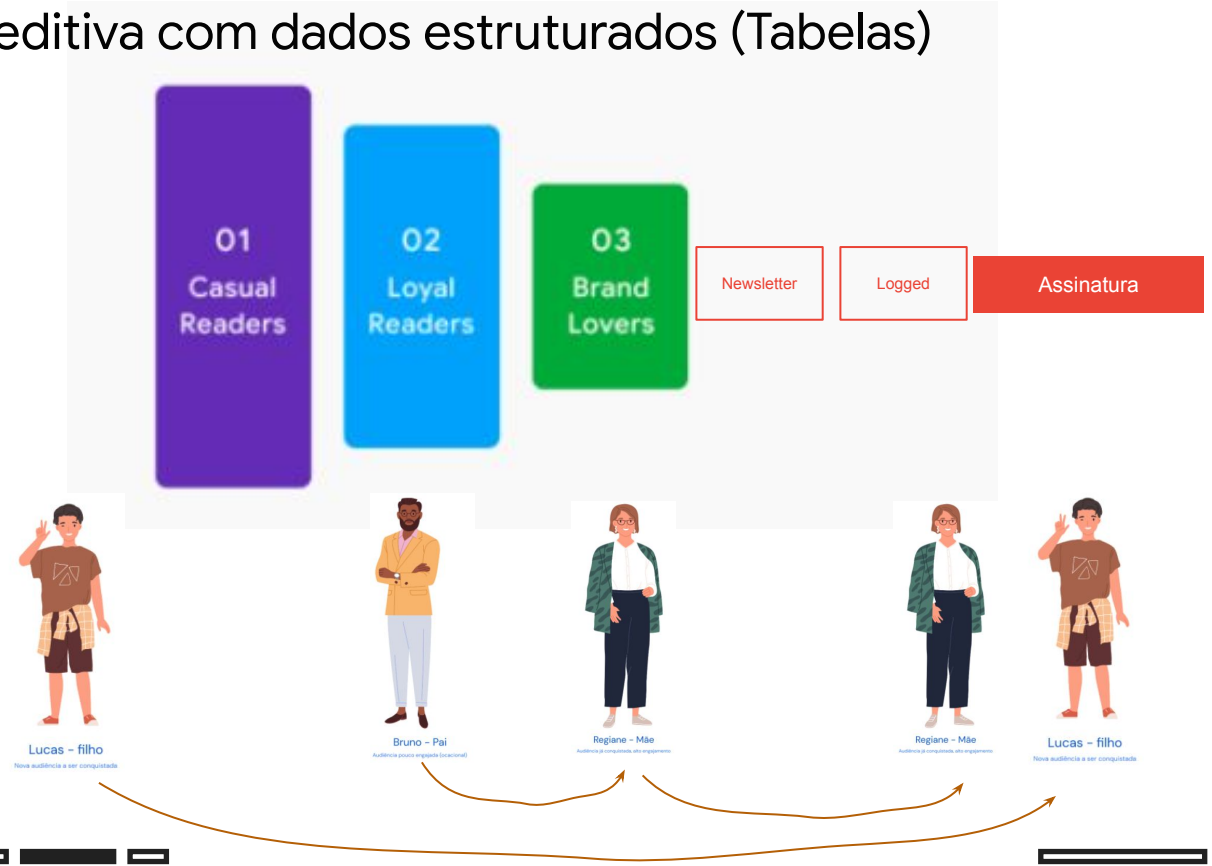
"Operar um site de notícias, mas não ser capaz de coletar os dados do usuário é o maior problema enfrentado pelo setor de notícias coreano." -Seung-Il Kim, Editor Digital de Estratégia do The Busan Ilbo

https://www.youtube.com/watch?v=95AkjRa9dXw

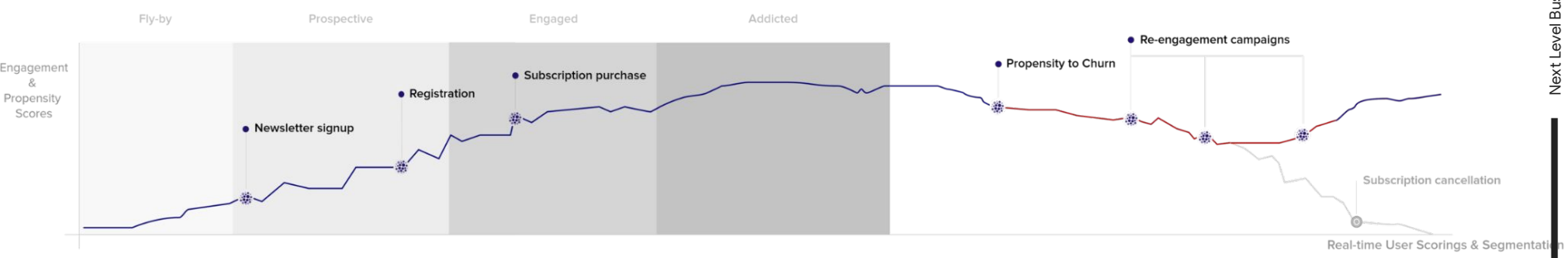


CIAT Google Cloud

IA Preditiva com dados estruturados (Tabelas)



IA Preditiva com dados estruturados (Tabelas)



Ciclo de vida do leitor

CI&T Google Cloud

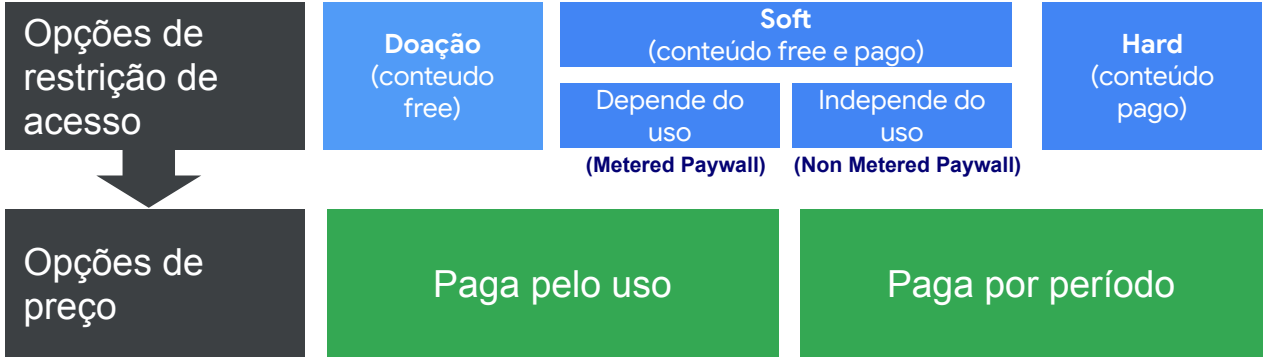
IA Preditiva com dados estruturados (Tabelas)

Exemplo de perfil

Um **provável assinante** ($)pode ser resumido como:

- Lê mais de 5 artigos por mês
- Assina um boletim informativo ou forneceu seu endereço de e-mail
- Segue sua marca nas redes sociais
- Vive na sua área de mercado e lê notícias locais
- Lê várias categorias de conteúdo
- Acessa seu conteúdo em vários dispositivos

Estratégias de acesso e pricing



CI&T Google Cloud

1 Comentário

Os comentários são exclusivos para assinantes UOL. Leia e comente!

Já é assinante? Faça seu login

EXPERIMENTE 7 DIAS GRÁTIS

Assine e aproveite todo conteúdo exclusivo do UOL

Menu | Buscar | Valor Econômico | Entrar | ASSINE

Valor Econômico

Assine o Valor.
É mais do que assinatura:
é investimento.

Valor Digital:
R$ 19,90 /mês por 3 meses

EU QUERO

Menu | Buscar | Valor Econômico | Política | Entrar | ASSINE

Conflito entre áreas econômica e política trava anúncio do Auxílio Brasil

Assine Valor Econômico e continue lendo essa matéria.

Já possui cadastro? Faça seu login

Valor

CONHEÇA AGORA O CONTEÚDO QUE DIFERENCIA VOCÊ.
Cadastre-se aqui e acesse grátis esta matéria.

Assine o Valor.
É mais do que assinatura:
é investimento.

Valor Digital:
R$ 19,90

Menu | Buscar | Valor Econômico | Entrar | ASSINE

Conheça agora
a Itaúsa que olha para o futuro.
Afinal, é para lá que todos estamos indo.

Economia para não furar o teto de gastos

Há pressões e ideias de todo o tipo sobre o programa que vai substituir o Bolsa Família e há um clima de irritação com a articulação política do governo na área econômica

- Bolsonaro confirma proposta de R$ 400 para Auxílio Brasil e nega "estripulia" no Orçamento
- Governo ainda debate valor extrateto do auxílio e votação do PEC dos precatórios deve ser adiada

Brasil

Brasil conclama China a avançar no comércio de carne

- Governo manda suspender produção de carne bovina para China
- Brasil torna-se 4º maior exportador de petróleo para a China

Legislação

Proprietário só deve pagar ITBI no registro do imóvel em cartório

Empresas

Facebook estuda mudar de nome para renovar imagem; veja opções que podem estar na disputa

- Facebook planeja contratar 10 mil para construir 'metaverso'

Moedas

20/10/2021 - 14h30 (delay 15min)

Moeda	Compra	Venda	Variação
Dólar Comercial	5,5572	5,5583	-0,65%
Dólar Turismo	5,5973	5,7773	-0,50%
Euro Comercial	6,4747	6,4770	-0,52%
Euro Turismo	6,5661	6,7461	-0,50%

Ver mais no Valor Data →

Parceria

Itaú lança canal de finanças pessoais com Editora Globo

Buscar | Valor Econômico | Brasil | Entrar | ASSINE

Maioria apoia passaporte da vacina, diz pesquisa

Medida tem o apoio de 54% a 80% da população conforme o caso, indica levantamento da UnB e do IBPAD

Por Hugo Passarelli — De São Paulo
19/10/2021 05h01 - Atualizado há 14 horas

Assine Valor Econômico e continue lendo essa matéria.

Já possui cadastro? Faça seu login

Valor

CONHEÇA AGORA O CONTEÚDO QUE DIFERENCIA VOCÊ.
Cadastre-se aqui e acesse grátis esta matéria.

Assine o Valor.
É mais do que assinatura:
é investimento.

Next Level Business

AI

CIST Google Cloud

IA Preditiva com dados estruturados (Tabelas)

Dataset Info

Created: Mar 10, 2021 8:02 AM

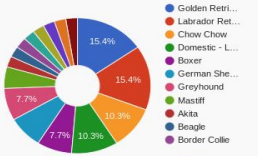
Dataset format: CSV

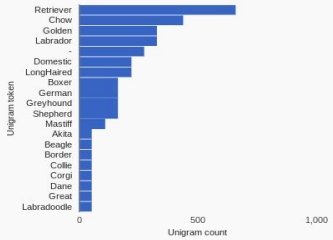
Dataset location: gs://tg_sample...ta_Grooming (1).csv

Filter Enter property name or value

Field Name	Missing % (count)
Age	-
Animal	-
Breed	-
DateTime	-
ElapsedTime	-
Employees	-
GroomerId	-
OrderNumber	-
Stage	-
StationsAvailable	-
StoreID	-
WorkEffort	-
WorkType	-

Column name: Breed
Missing % (count): -
Distinct values: 16
Most common value (%): Golden Retriever(15.385%)





Prever comportamentos
(click, navegação, compra, fraude,visita, abandono, uso de pontos,assinatura, etc)
https://www.youtube.com/watch?v=tWbiOuHae0c
https://www.youtube.com/watch?v=u60sUZ-Xfho

FRANKFURTER ALLGEMEINE ZEITUNG

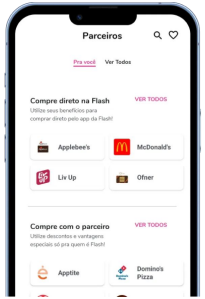
Paywall Content Selection Using AI

Frankfurter Allgemeine Zeitung utilizes an AI and ML service to predict which articles will have the best conversion performance

> We know that the industry is experimenting with Artificial Intelligence to improve conversion rates; I think in the end each publisher has to find their own approach." says Wilfer. "I do not think anyone has one solution to improve subscription conversion rates across the board. The rate depends on conditions that vary, such as the subscription model, traffic sources and to which degree AI is used in the process.
>
> Nico Wilfer
> CHIEF PRODUCT OFFICER

https://newsinitiative.withgoogle.com/pt-br/resources/stories/paywall-content-selection-using-ai/

https://newsinitiative.withgoogle.com/pt-br/resources/stories/growing-subscriptions-with-the-help-of-technology/



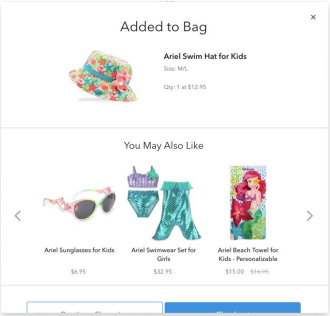
Estimativa de quantidade

Next Level Business

AI

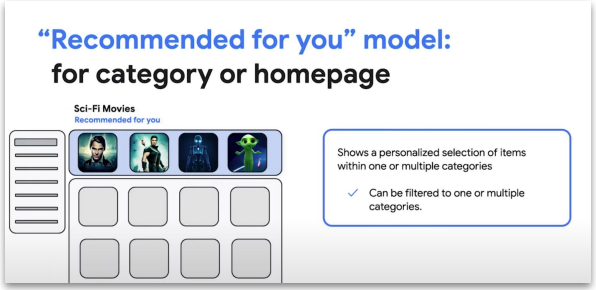
CI&T Google Cloud

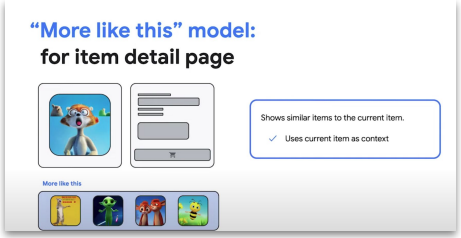
IA Preditiva com dados estruturados (Tabelas)



clientId	LikelyToBuyProductA
123	0.70
345	0.90

Recomendação de produtos



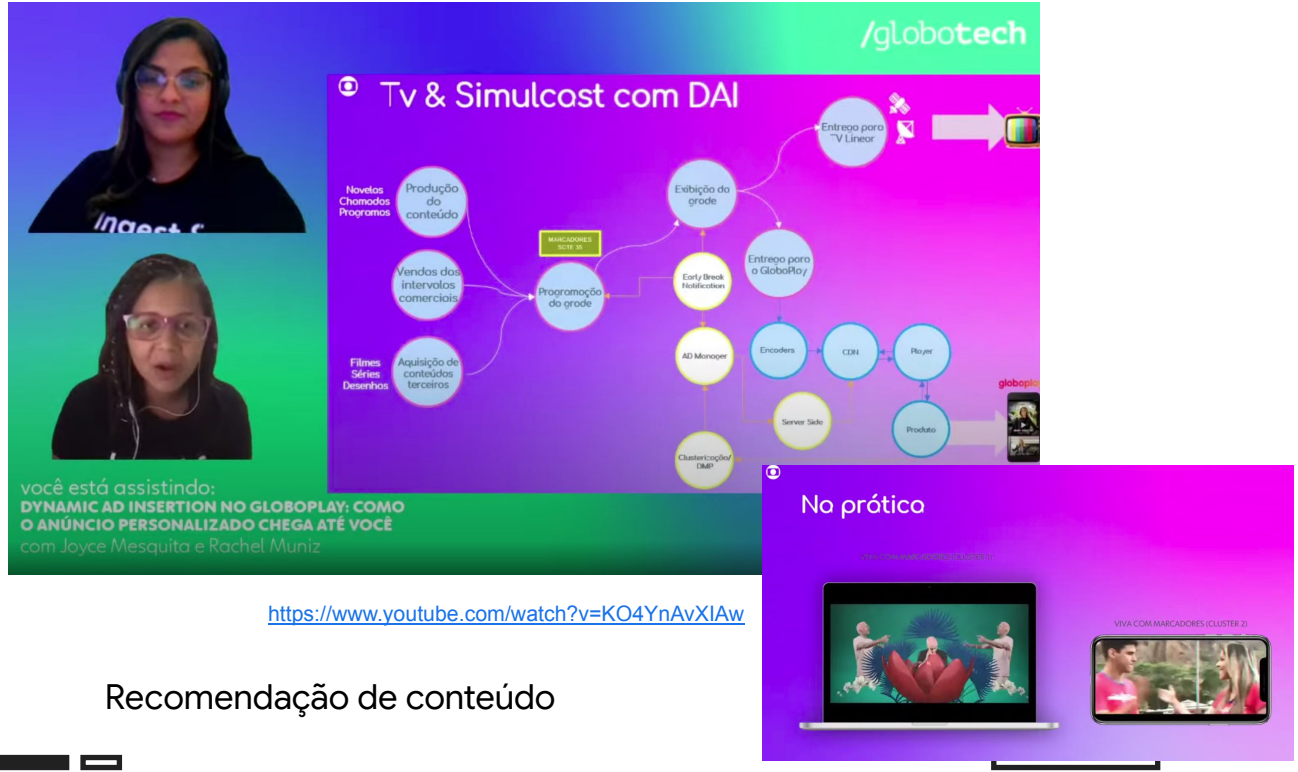


Recomendação de conteúdo

https://cloud.google.com/blog/topics/developers-practitioners/looking-build-recommendation-system-google-cloud-leverage-following-guidelines-identify-right-solution-you-part-i

https://www.youtube.com/watch?v=p10qOapgrAM

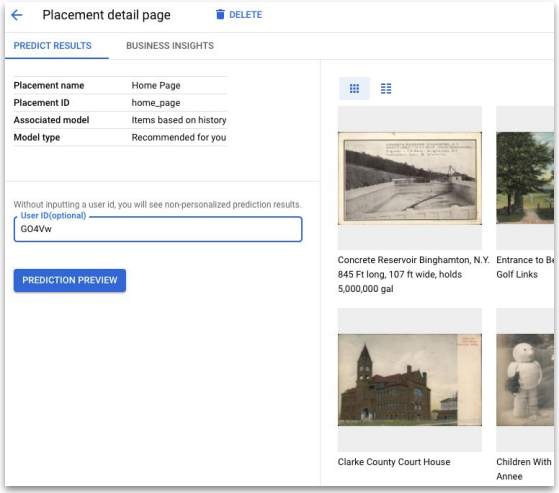
IA Preditiva com dados estruturados (Tabelas)

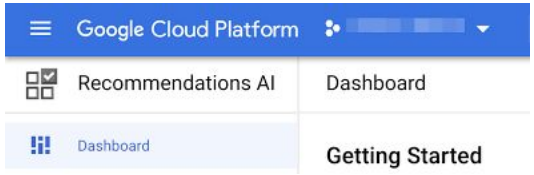


https://www.youtube.com/watch?v=KO4YnAvXIAw

Recomendação de conteúdo

IA Preditiva com dados estruturados (Tabelas)





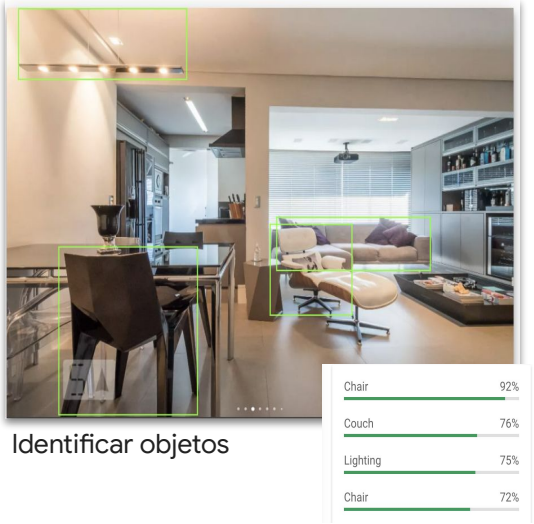
Recomendação de conteúdo

Newsweek

"A IA do Google Cloud Recommendations não apenas melhorou nossa **CTR** em **50%** a **75%** e a taxa de conversão de **assinaturas** em **10%**, mas também nos permitiu aumentar a receita total por visita em **10%**", diz Michael Lukac, diretor de tecnologia da Newsweek. "O serviço totalmente gerenciado, a IA avançada e a personalização em tempo real nos permitiram melhorar o envolvimento do usuário. Melhorou a **diversidade de conteúdo** e recursos personalizados para o **leitor individual**. "

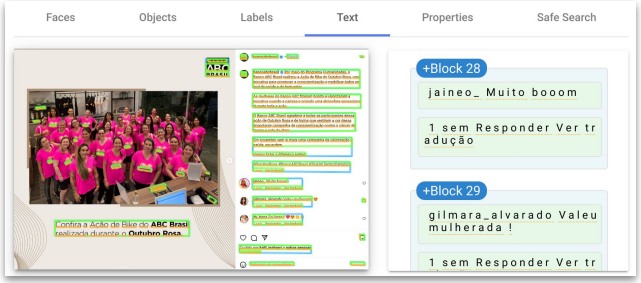
https://cloud.google.com/blog/products/ai-machine-learning/how-newsweek-increased-total-revenue-with-recommendations-ai

IA Preditiva com Imagem

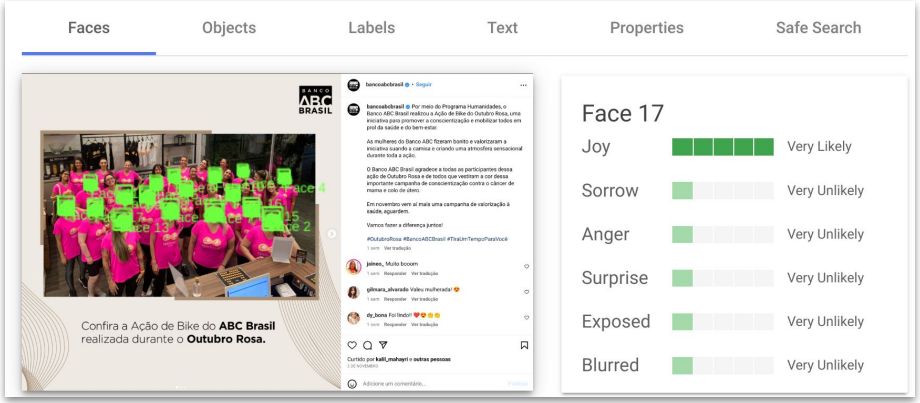


Identificar objetos

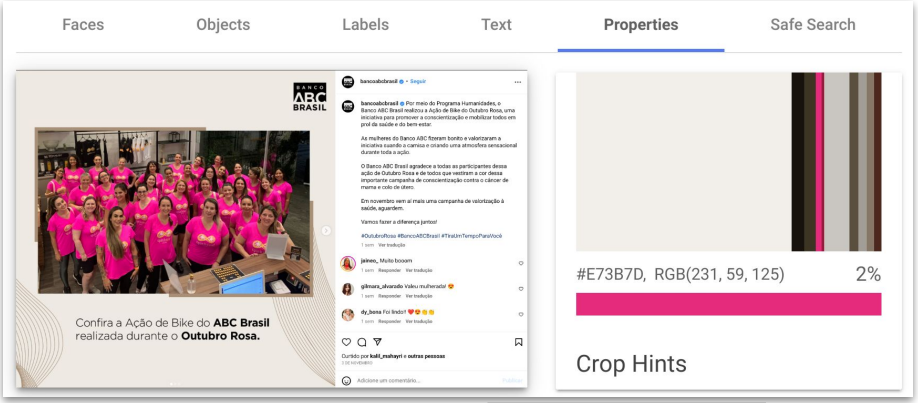
Identificar textos



Identificar pessoas e emoções



Identificar cores & objetos



https://cloud.google.com/vision/docs/drag-and-drop?hl=pt-br

Google Cloud

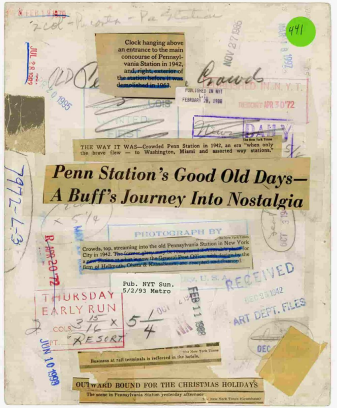
Next Level Business

AI

IA Preditiva com Imagem

FOLHA100

https://cloud.google.com/customers/grupo-folha/?hl=pt-br



https://cloud.google.com/blog/products/ai-machine-learning/how-the-new-york-times-is-using-google-cloud-to-find-untold-stories-in-millions-of-archived-photos

CI&T Google Cloud

IA Generativa com Imagem

Core features
- Image generation
- Safety filters (user configurable)
- Aspect ratios
- Melhoria de prompts
- Upscaling (2K, 4K)

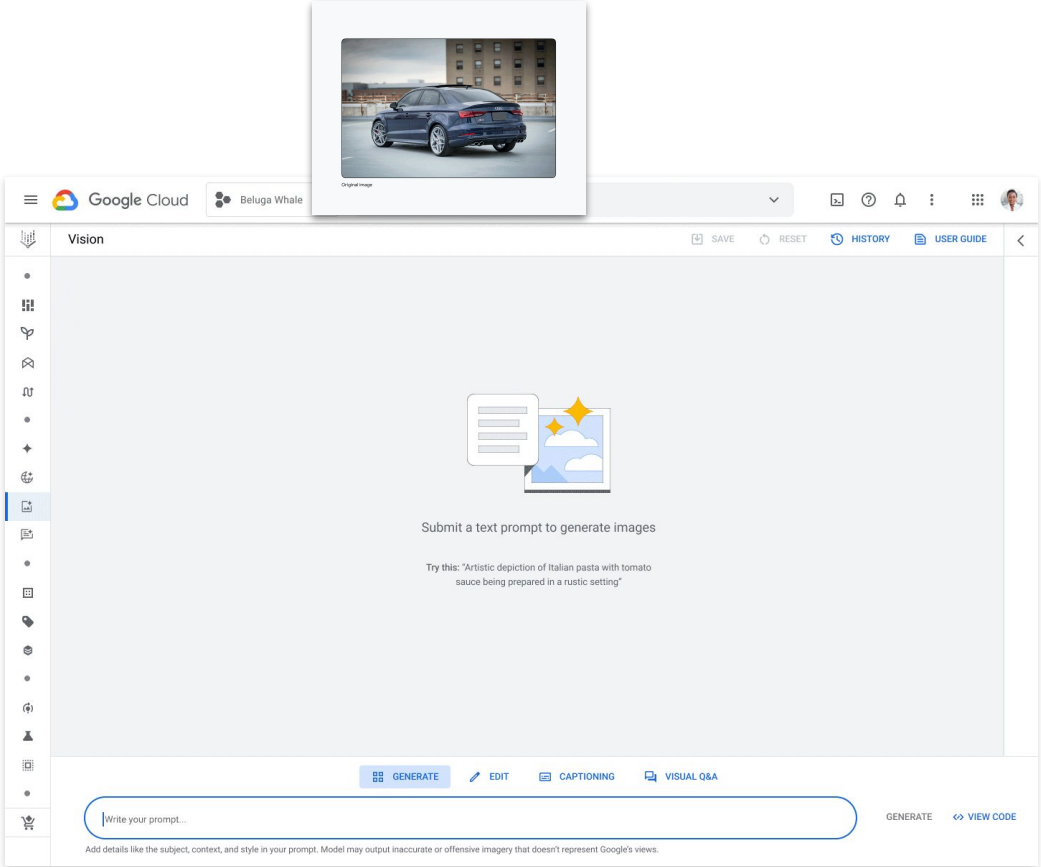
Editar imagens (mask or mask-free)
- Extração automática de fundo
- Orientação via prompt de texto e imagem
- Pintura interna/externa (incl. sem aviso prévio)
- Edição de imagem do produto

Estilos
- Estilos predefinidos e personalizados

Tuning
- Adicione assuntos personalizados à criação
- Ajuste instantâneo do assunto

Compreensão da imagem
- Visual captioning
- Visual Q&A

Digital watermarking & verificação



https://cloud.google.com/vertex-ai/docs/generative-ai/image/img-gen-prompt-guide?_ga=2.43213027.-750171820.1706045170&hl=pt-br

IA Generativa com Imagem

PROMPT: A mosaic-inspired portrait of a person, their features formed by a collection of small, colorful tiles.

PROMPT: a modern house on a coastal cliff, sunset, reflections in the water, bright stylized, architectural magazine photo.

PROMPT: Isometric 3d rendering of a car driving in the countryside surrounded by trees, bright colors, puffy clouds overhead.

PROMPT: a studio portrait of a man with a grizzly beard eating a sandwich with his hands, dramatic skewed angled photography, film noir.

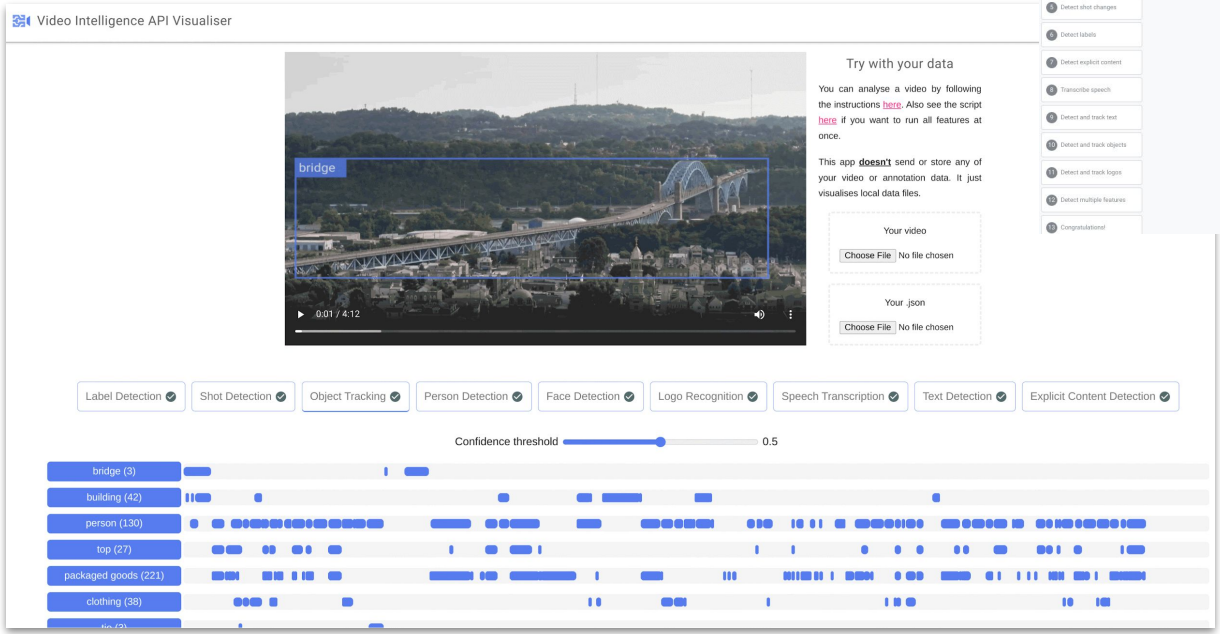
PROMPT: a tube of toothpaste with the words "CYMBAL" written on it, on a bathroom counter, advertisement.

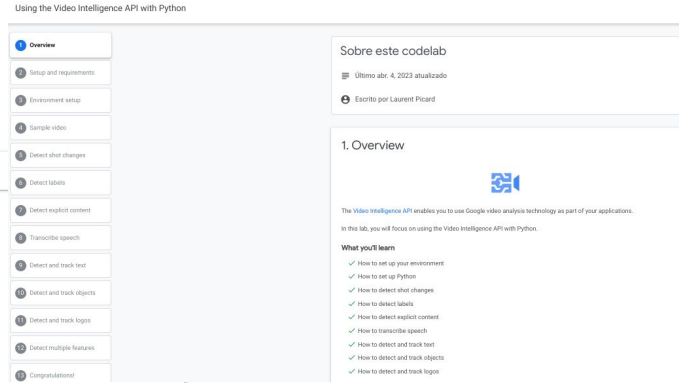
PROMPT: A cup of strawberry yogurt with the word "Delicious" written on its side, sitting on a wooden tabletop. Next to the cup of yogurt is a plate with toast and a glass of orange juice.

https://cloud.google.com/vertex-ai/docs/generative-ai/image/img-gen-prompt-guide?_ga=2.43213027.-750171820.1706045170&hl=pt-br

IA Preditiva com Vídeo

Identificar Rótulos, Cenas, Objetos,Pessoas, Rosto,Logotipo, Fala, Texto...





https://zackakil.github.io/video-intelligence-api-visualiser/#Text%20Detection

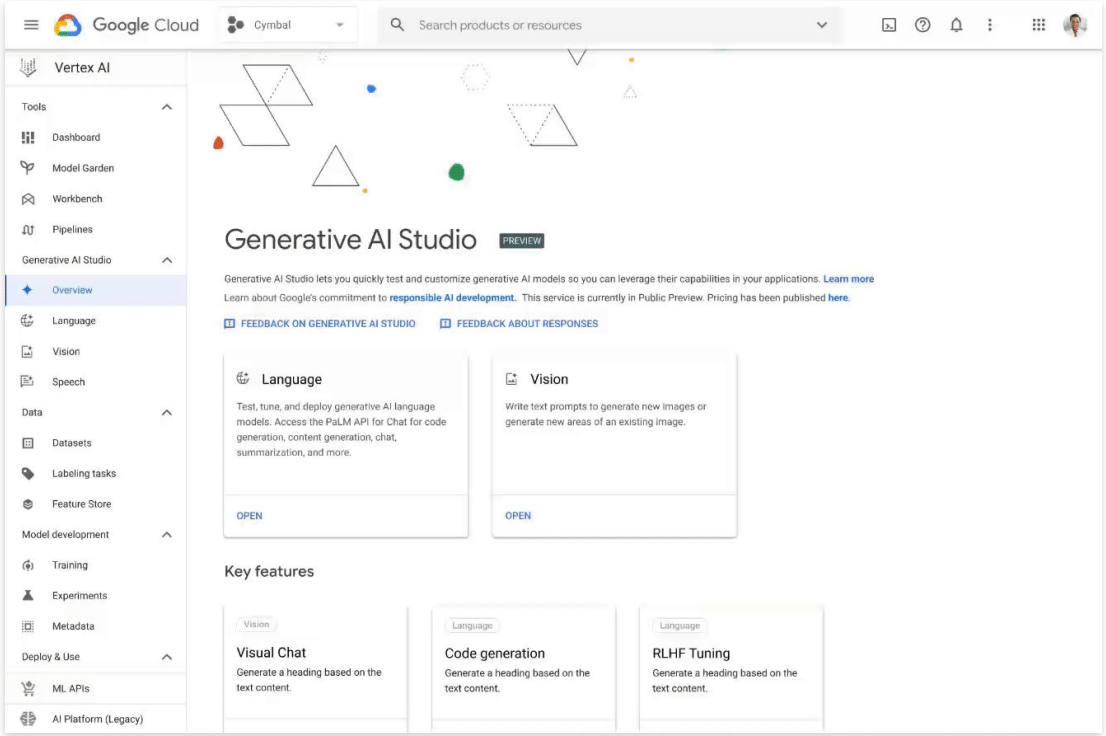
IA Generativa com Vídeo

(not available yet)

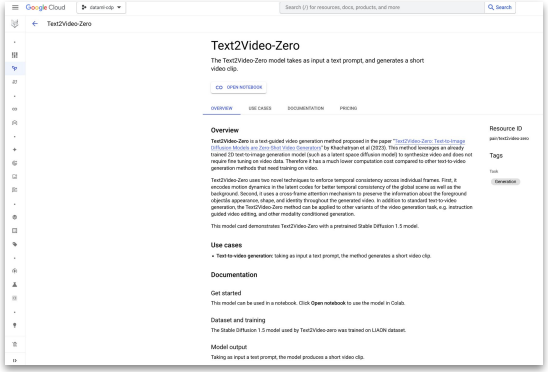
Base na entrada de texto e/ou imagem.

Exemplos de casos de uso

- Produtos publicitários
- Acelere o processo criativo
- Jogos



OSS Model



https://lumiere-video.github.io/

IA Generativa com Vídeo

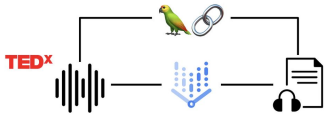
https://lumiere-video.github.io/

IA Generativa com Áudio

Summarize Audio Like a Maestro with Langchain, Chirp, and PaLM2 on Vertex AI

Ivan Nardini · Follow
Published in Google Cloud - Community · 10 min read · Jul 13

112 1



Langchain, Chirp, PaLM2 for audio summarization — Image from author

https://medium.com/google-cloud/summarize-audio-like-a-maestro-with-langchain-chirp-palm2-on-vertex-ai-31beeb2ba667

Creating AI-powered audio

The latest of these projects is Voicetoyou, which El Español built in 2022. The AI-powered tool automatically converts news stories into audio pieces, allowing the publisher to capture a new audience of listeners. "The most innovative part of this project is that we're fine-tuning an algorithm that will allow us to use real voices for the automatically-generated audio," Muñoz explains.

El Español is still testing out the technology, but they are currently converting about 30 articles per day into audio from their top departments, including politics, international news, and opinion. And they have already noticed a remarkable increase in engagement: Users of the audio tool spend up to 500 percent more time consuming news on El Español's site than other users. They expect that about 10 percent of their articles will eventually be converted to audio.

500% more time spent on El Español by Listeners

~30 audio articles generated per day

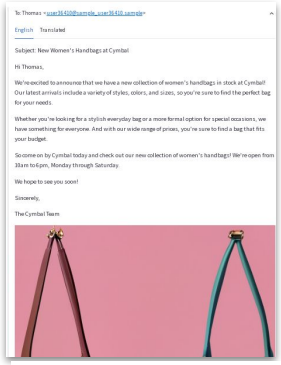
10% of articles to be converted to audio

https://newsinitiative.withgoogle.com/pt-br/resources/stories/digital-paper-adds-to-revenue-streams-with-ai/

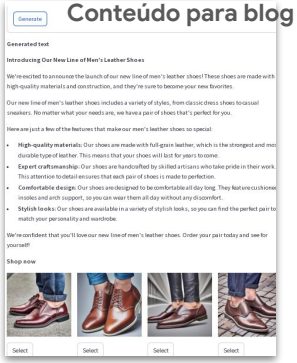
Try it: https://cloud.google.com/speech-to-text/

IA Generativa com Texto

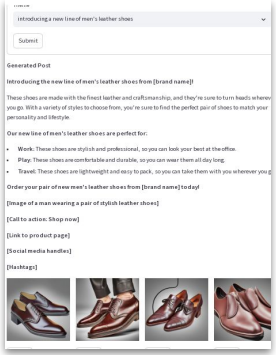
Conteúdo para email



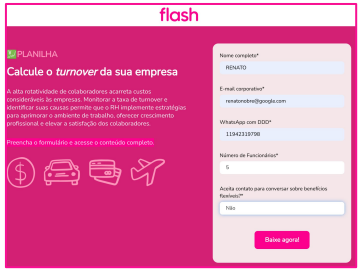
Conteúdo para blog

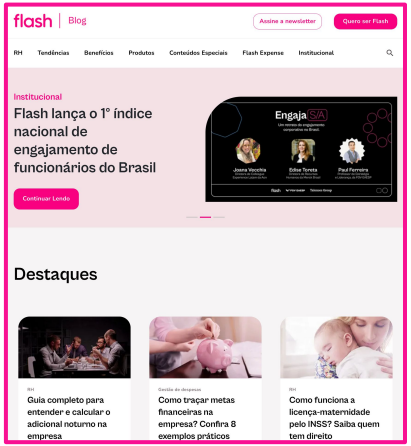


Social media copy



Conteúdo para landing pages





Conteúdo para blog

Estudos de caso

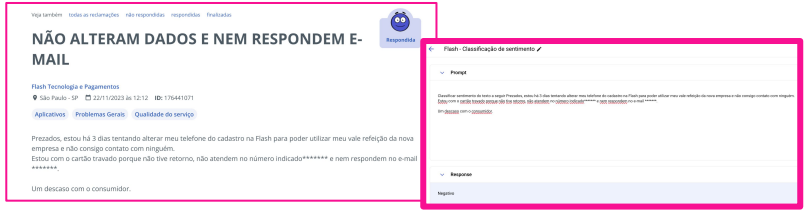
"Um dos maiores desafios dos imigrantes é a grande dificuldade de acessar notícias locais, principalmente no idioma deles. Por isso, para nós é muito importante poder ajudar essa comunidade." -Rocio Tirado, Diretora de Operações do Jambalaya News

"Um dos maiores desafios dos imigrantes é a grande dificuldade de acessar notícias locais, principalmente no idioma deles. Por isso, para nós é muito importante poder ajudar essa comunidade." -

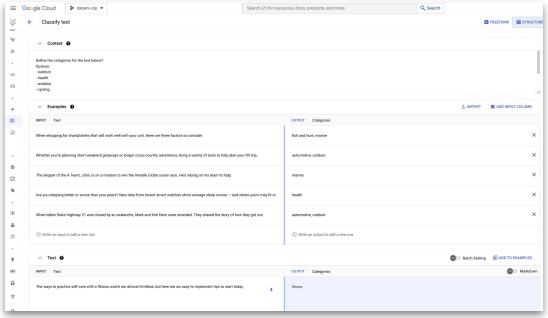
https://www.youtube.com/watch?v=v60B5I2NhAo&t=127s

IA Generativa com Texto

Classificar sentimentos e extrair informações principais



Classificar qualquer texto com poucos exemplos



Sumarizar vídeos

Summary:

O upskilling e o reskilling são duas tendências essenciais para quem quer se destacar no mercado de trabalho.

No upskilling, os colaboradores têm a oportunidade de aprimorar suas habilidades e adquirir conhecimentos relevantes para o futuro.

Já no reskilling, eles passam por treinamentos para aprender novas habilidades, se preparando para assumir novas funções ou atender a demandas emergentes.

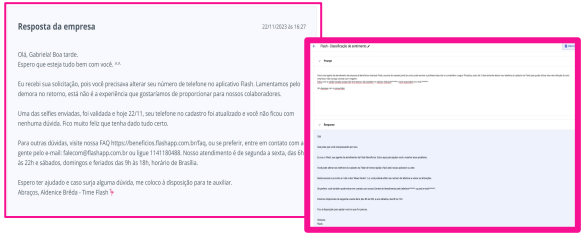
O RH tem um papel importante na implementação do upskilling e do reskilling, inserindo a liderança e os colaboradores nessa jornada.

Alguns dos benefícios dessa prática são colaboradores mais engajados, uma cultura organizacional fortalecida e a redução do turnover.

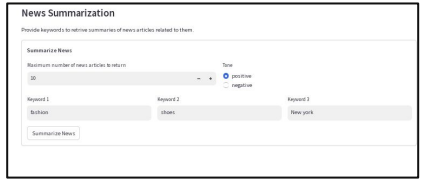
Para implementar com sucesso o upskilling e o reskilling, o RH deve considerar alguns pontos chave: é essencial uma análise das habilidades de cada colaborador, estimular uma rotina de treinamento flexível, investir em tecnologia e acompanhar os resultados por meio de métricas eficientes.

Se você quer saber mais detalhes sobre esse tema e outros assuntos relevantes, não deixe de conferir o nosso blog. O link vai estar aqui na descrição dessa vídeo. Você pode se inscrever agora e ativar as notificações para não perder nenhum conteúdo. Até mais!

Gerar respostas personalizadas



Sumarizar notícias



Next Level Business

AI

CIST Google Cloud

IA Generativa com Texto

Carrefour created a GenAI powered marketing studio with Google to revolutionize campaign production

Elodie Perthuisot • 2nd
Chief E Commerce, Digital Transformation and Data Officer...
5d • Edited •
+ Follow

🚀 **Carrefour** keeps building its GenAI solutions ! I presented last week our latest GenAI-powered chatbot Hopla.

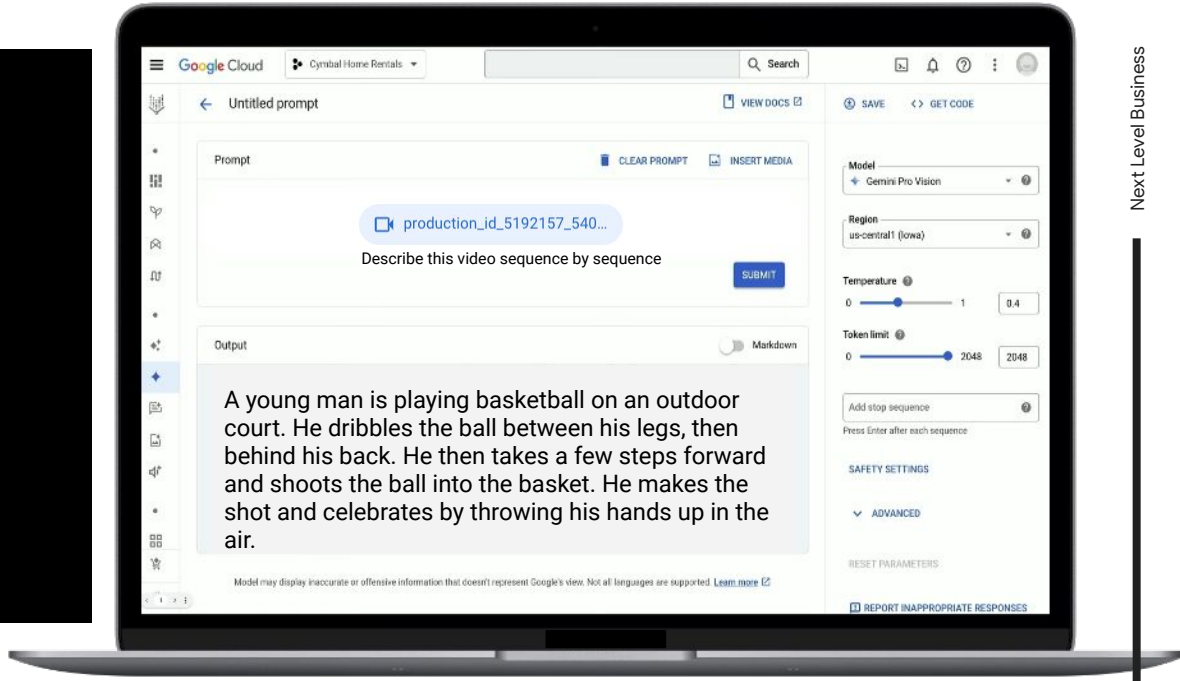
Today, we are launching a GenAI-powered marketing studio with **Google**. We can now use the power of GenAI to create full marketing campaigns : the AI learns from the history of previous campaigns, and when fed with guidelines for an upcoming campaign, it can generate a comprehensive one in a matter of minutes. You can come and test it at the Carrefour corner, on Google's stand at **Viva Technology**, so do drop by!

👏 Well done to the teams at Carrefour & Google : a perfect highlight for the 5-year anniversary of our partnership!

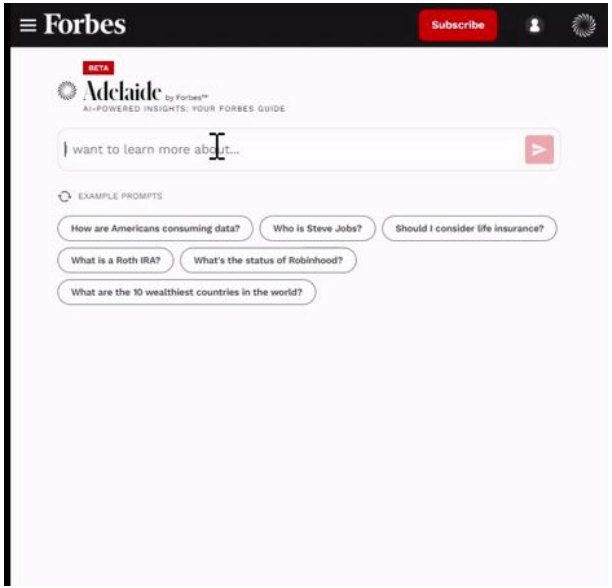
Take a look! 👇

CI&T Google Cloud

Vertex AI Studio Gemini Multi Modal

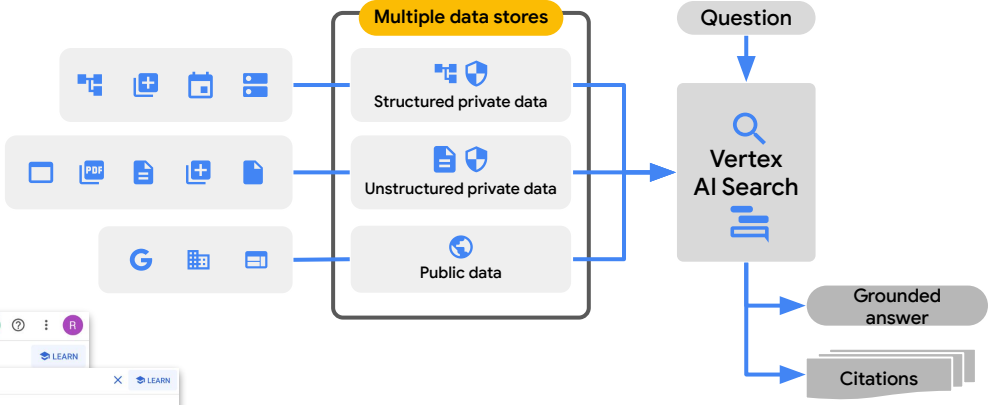


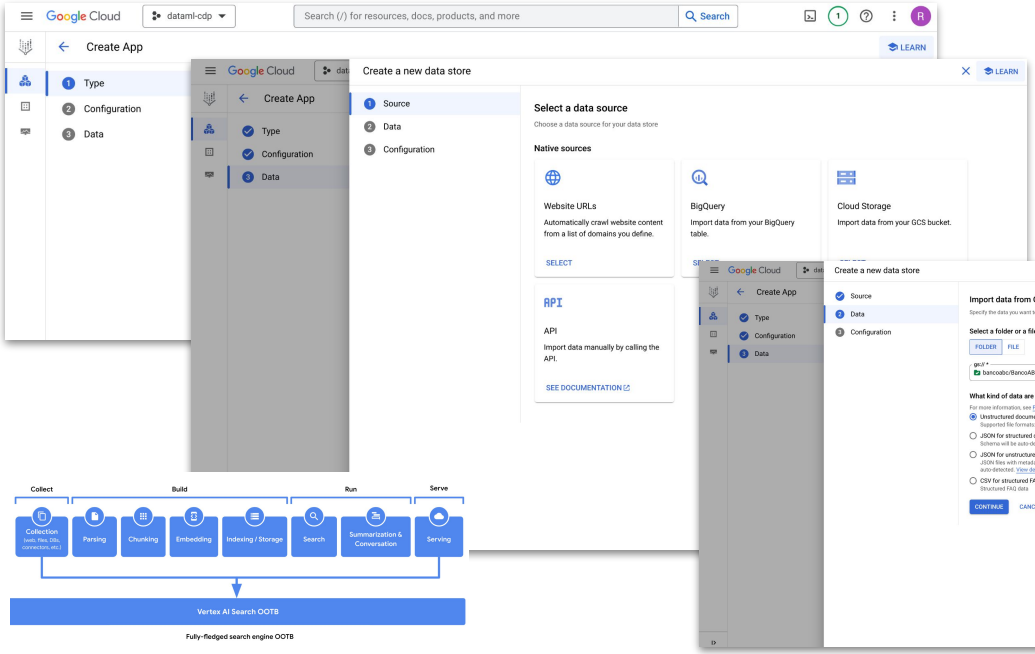
IA Generativa para Busca (OOTB)

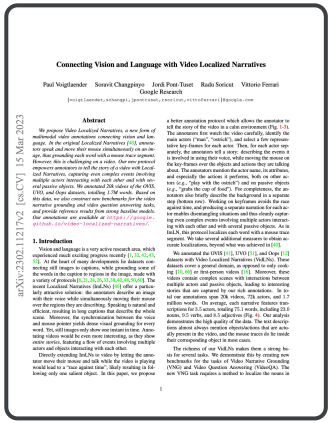


CI&T Google Cloud

IA Generativa para Busca (OOTB)







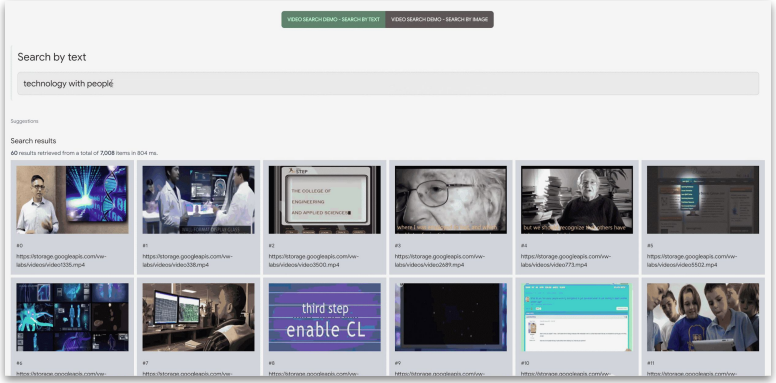
Next Level Business

All

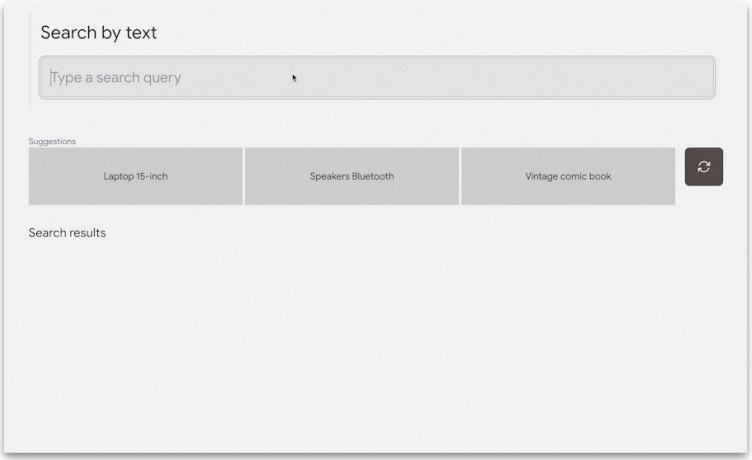
CIAT Google Cloud

IA Generativa para Busca (Multi Modal)

Pesquisar vídeos por texto ou por imagem (preview)

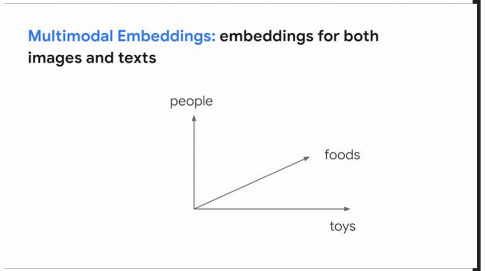


Pesquisar imagens por texto ou por imagem



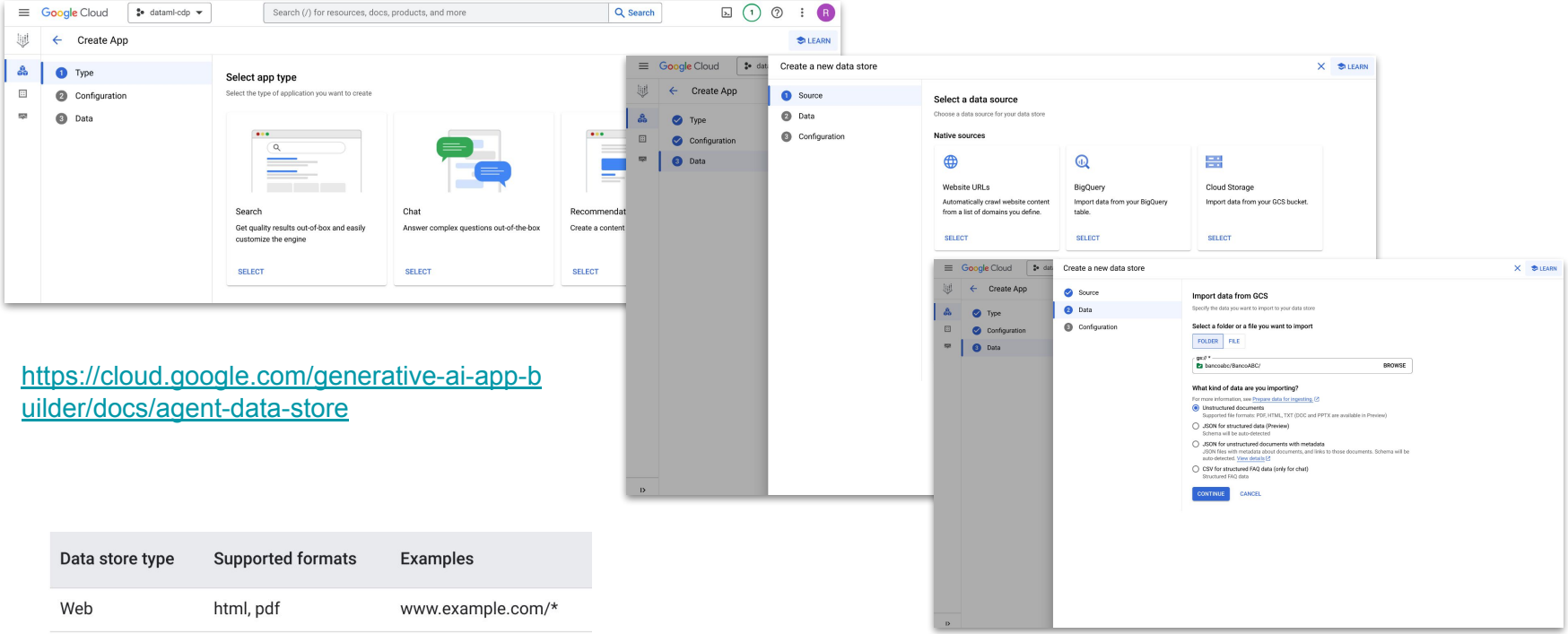
- **Pesquisa Semântica**: Pesquisa de texto classificado por similaridade semântica.
- **Recomendação**: Retorne elementos com atributos de texto semelhantes ao texto fornecido.
- **Classificação**: Retorna a classe de elementos cujos atributos de texto são semelhantes ao texto fornecido.
- **Agrupamento**: Agrupa elementos cujos atributos de texto são semelhantes ao texto fornecido.
- **Detecção de outlier**: retorna elementos onde os atributos de texto estão menos relacionados ao texto fornecido

https://www.deeplearning.ai/short-courses/google-cloud-vertex-ai/
https://cloud.google.com/vertex-ai/docs/generative-ai/model-reference/multimodal-embeddings
https://cloud.google.com/blog/products/ai-machine-learning/multimodal-generative-ai-search



https://generative-chatbots.web.app/

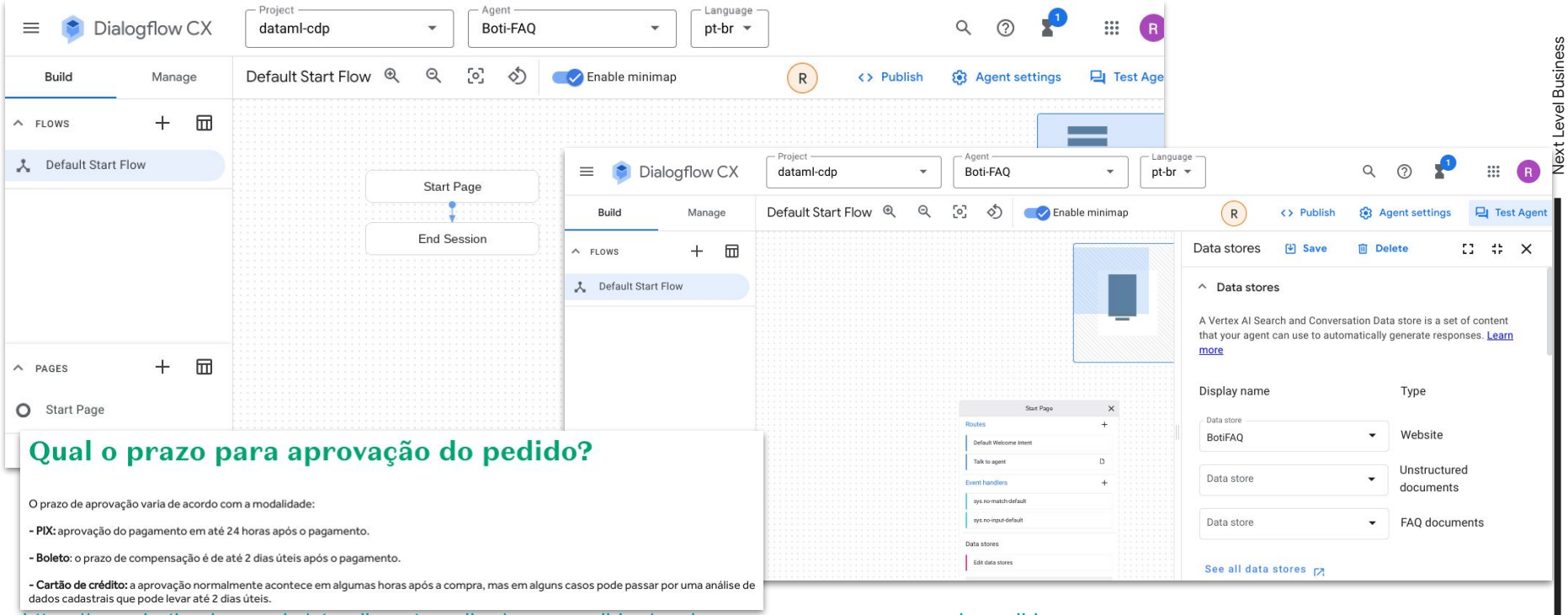
IA Generativa para Conversação (OOTB)



https://cloud.google.com/generative-ai-app-builder/docs/agent-data-store

Data store type	Supported formats	Examples
Web	html, pdf	www.example.com/*
Unstructured	html, pdf	mydoc.pdf, private.html
Structured	csv	"why?","why not"

IA Generativa para Conversação (OOTB)



Qual o prazo para aprovação do pedido?

O prazo de aprovação varia de acordo com a modalidade:

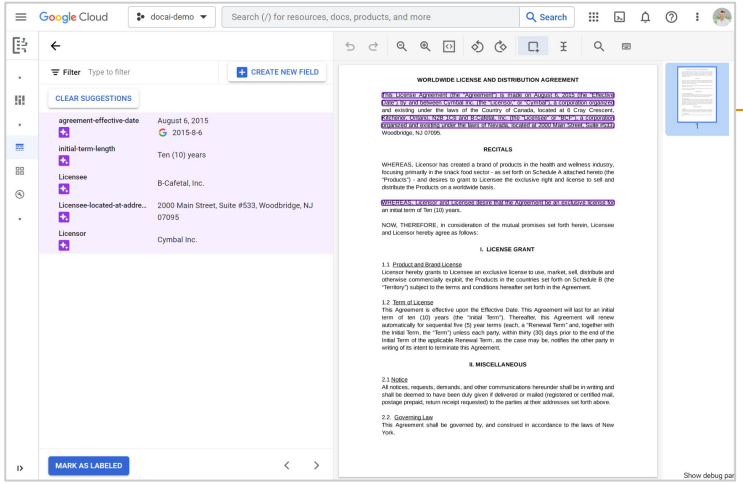
- **PIX:** aprovação do pagamento em até 24 horas após o pagamento.
- **Boleto:** o prazo de compensação é de até 2 dias úteis após o pagamento.
- **Cartão de crédito:** a aprovação normalmente acontece em algumas horas após a compra, mas em alguns casos pode passar por uma análise de dados cadastrais que pode levar até 2 dias úteis.

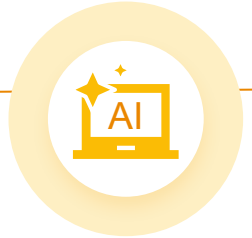
https://www.boticario.com.br/atendimento-online/meus-pedidos/qual-o-prazo-para-aprovacao-do-pedido

Next Level Business
All
CI&T Google Cloud

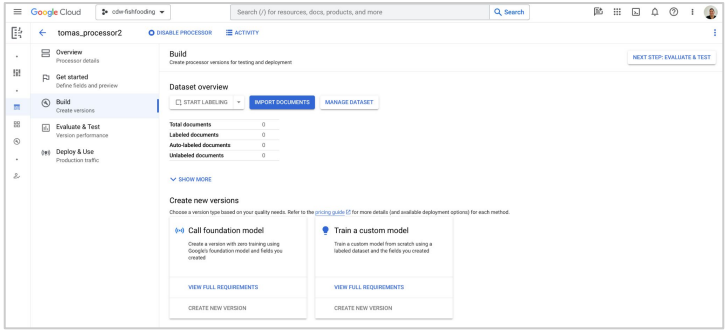
IA Preditiva e Generativa para Documentos

Criar esquema e testar extração



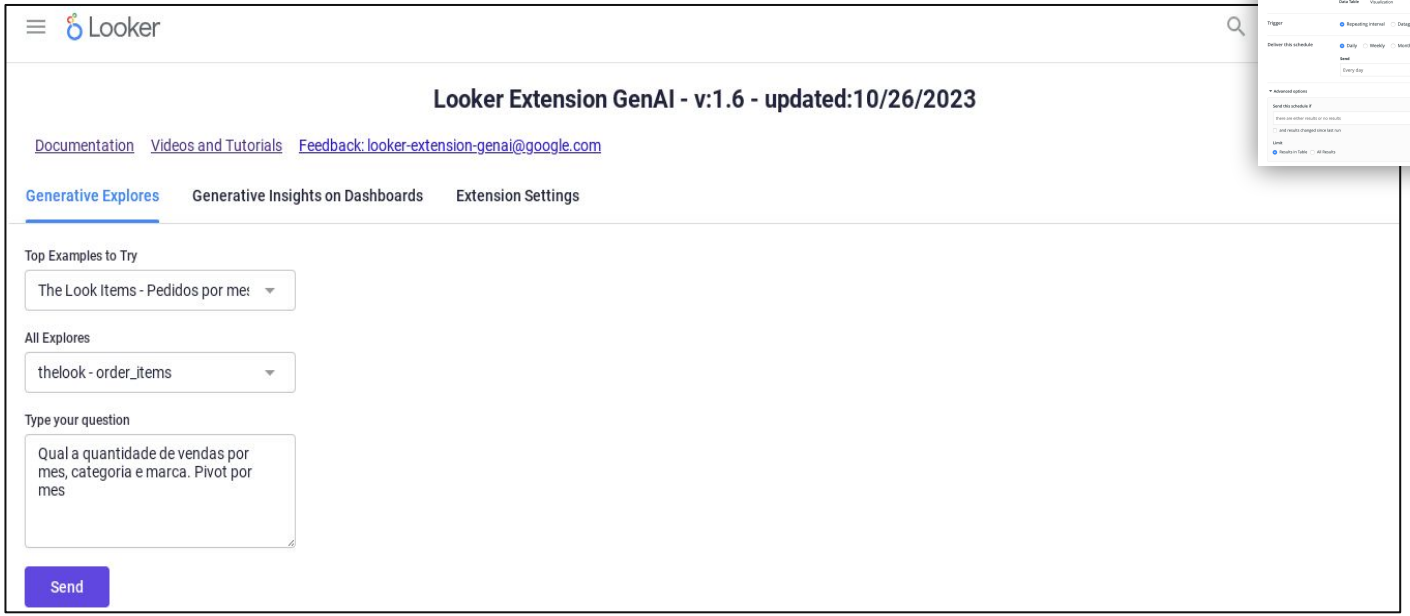


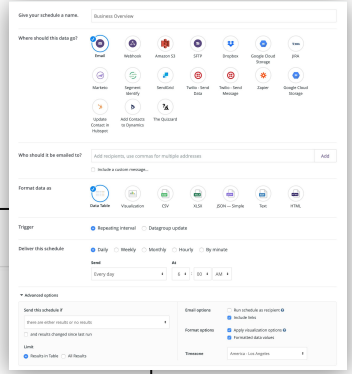
Escolha o modelo básico ou treine um modelo personalizado



CIAT Google Cloud

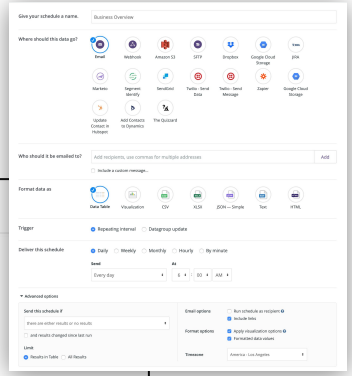
IA Generativa para Analítico

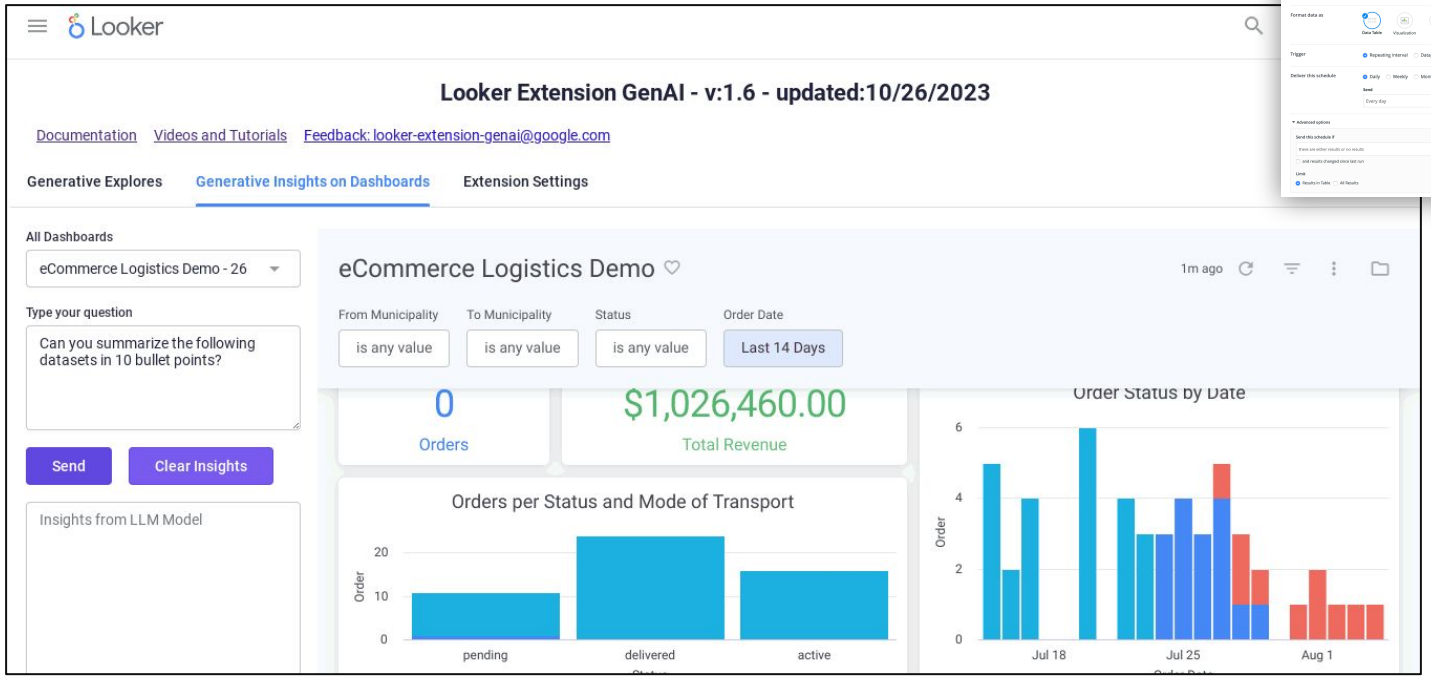




https://github.com/looker-open-source/extension-gen-ai

IA Generativa para Analítico





https://github.com/looker-open-source/extension-gen-ai

IA Generativa para Analítico

Chat with BigQuery table

This page provides instructions on how to extract data from BigQuery using natural language and the PaLM API. PaLM is a large language model from Google AI that can understand and respond to natural language queries. By using PaLM, you can ask questions about your data in plain English, and PaLM will generate the SQL queries necessary to retrieve the data.

Data preview

Preview of the table

Preview table

Ask a question...

text_to_sql.txt

Localizar | Links | Última modificação de

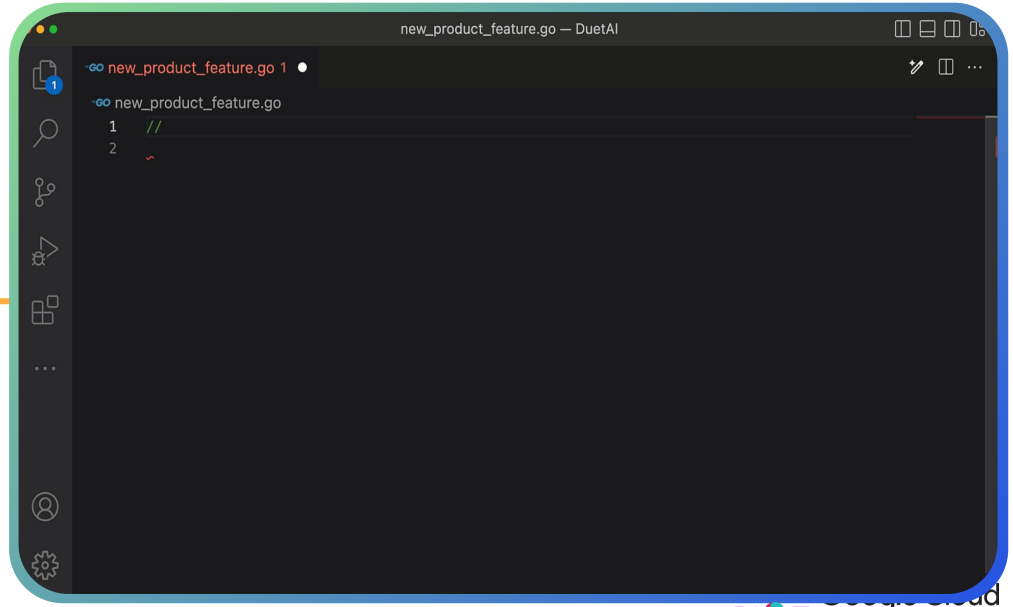
```
Consider following context that is delimited by triple backticks with the BigQuery table schema definition and description of each column.
Context: ```{}```\n
        Use this context to generate a GoogleSQL query compatible with BigQuery with the following rules to answer the question that is below the following 7 rules:
        1. The name of the table follows the format project_id.dataset.table, in this case it is {} .\n
        2. Verify that all column names of the query exists on the schema from context provided.\n
        5. Make sure you get all data types of the columns from the context provided.\n
        6. Use only DATE functions for DATE column type and TIMESTAMP functions for TIMESTAMP columm types.\n
        7. Do not use TIMESTAMP_SUB for DATE column, use DATETIME_SUB instead.\n
        8. Ensure the column names are exactly as described in the context, pay attention to cammelcase vs snakecase, for example isRetargeting is different than is_retargeting.\n
        9. Always add LIMIT 10 to the query to ensure the results are limited to a maximum of 10 rows.\n
        10. Always give alias to columns created based on aggregate functions.\n
        11. Aliases for column names must be in english.\n
        Question: {} \n
        SQL:
        """
```

```
Here is an example: convert text to SQL:
[SCHEMA details for table `rl-llm-dev.cdp_dataset.customers`]
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: cart_total - Data Type: FLOAT64 - Pr
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: channel - Data Type: STRING - Primar
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: city - Data Type: STRING - Primary K
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: customer_id - Data Type: INT64 - Pri
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: email - Data Type: STRING - Primary
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: is_media_follower - Data Type: BOOL
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: last_activity_date - Data Type: DATE
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: last_purchase_date - Data Type: DATE
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: last_sign_up_date - Data Type: DATE
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: loyalty_score - Data Type: INT64 - P
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: state - Data Type: STRING - Primary
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: total_emails - Data Type: INT64 - Pr
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: total_purchases - Data Type: INT64 -
Full table name: `rl-llm-dev.cdp_dataset.customers` - Column: total_value - Data Type: INT64 - Pri
```

IA Generativa para Desenvolvedores

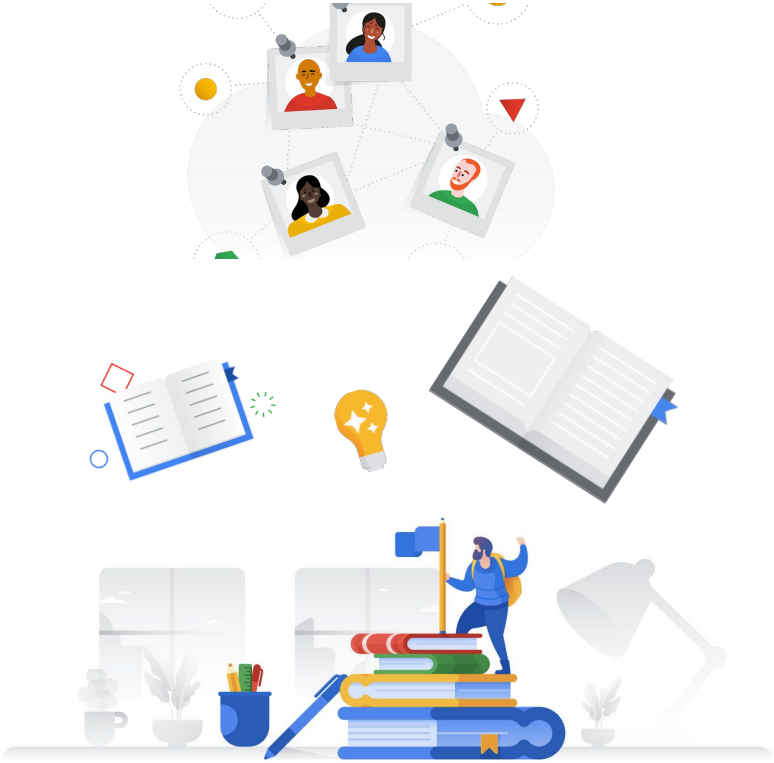
Duet AI for Developers provides AI-powered:

- Code completion
- Code generation
- Code refactoring
- Documentation generation
- Unit test generation
- Application deployment
- Operational diagnostics



Proprietary + Confidential

Agenda



01 9h00 – 9h20 Abertura

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03 9h40 – 10h30 AI, o que aprendi e fez a diferença

04 Agora é o momento de vocês
10h30 – 11h00 Fase I - Google AI Studio (protótipos)
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12h30 – 13h30 Almoço

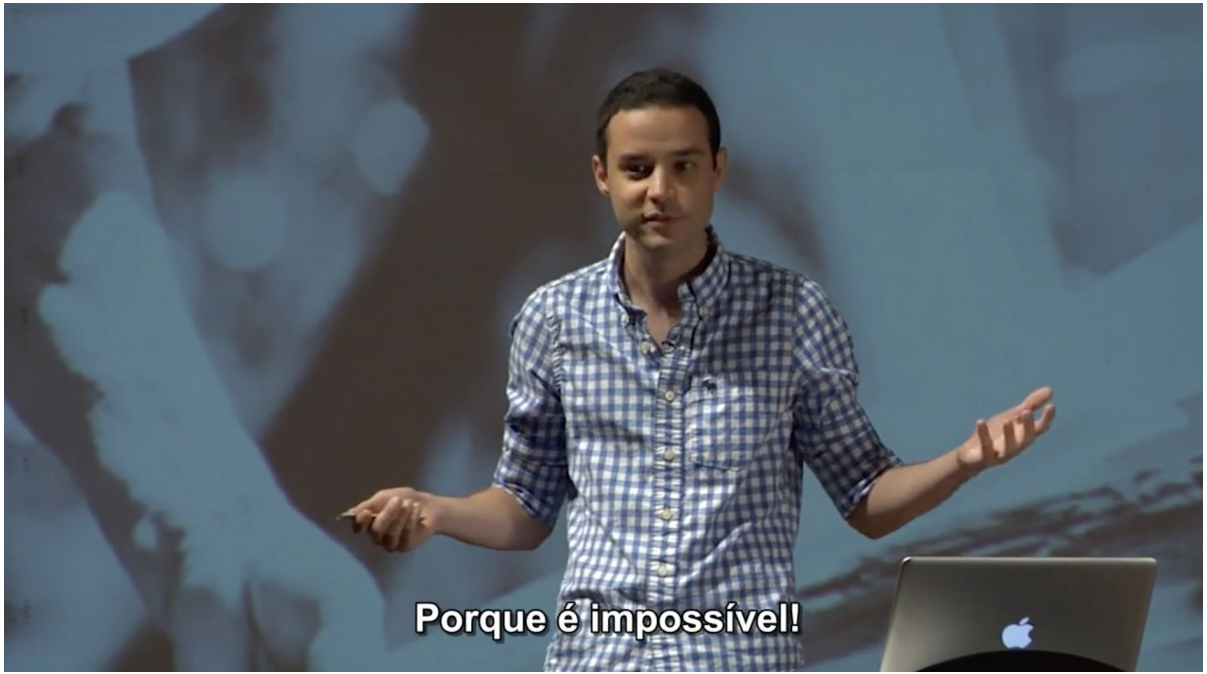
05 13h30 - 14h00 Conectando com o mundo real

06 14h00 - 16h10 - Agora vocês conectando com o mundo real

07 16h10 - 16h30 Apresentação dos pitches

09 16h30 – 17h00 Levando para a minha empresa

CI&T Google Cloud



https://www.youtube.com/watch?v=nLH0a0b4PyY

Proprietary + Confidential

Elementos de um pitch

Next Level Business / Google

1 Introdução

2 O problema

3 Alcance

4 Solução

5 Modelo de negócio

6 Benchmark

7 Resultados Alcançados

8 Equipe

9 Riscos

10 Fechamento

Prompt: high level resolution of people working a hackathon at google office

Como os projetos serão julgados?

As inscrições serão julgadas com base em 4 categorias: fator surpresa, impacto, polimento e qualidade da apresentação.

- **Wow factor (30%)**
  WOW-Factor é uma medida da inovação que você demonstrou em seu projeto. Um grande projeto nesta área é algo que os jurados não teriam pensado ser possível, ou que tivesse um sentido mágico.

- **Impact (30%)**
  Impacto é o valor geral do seu projeto para o domínio de destino. Isto poderia ser uma medida de impacto ambiental, impacto nos negócios, impacto na saúde, etc. Um grande projeto aqui poderia ser independente como uma startup ou revolucionar seu domínio.

- **Polish (30%)**
  é uma medida de quão pronto seu projeto está para lançamento. Um grande projeto nesta área será completo (ou próximo) com um pitch que faria um diretor querer financiar o seu projeto.

- **Presentation quality (10%)**
  A qualidade da apresentação é o quão bem você organizou sua ideia em uma apresentação e quão clara você apresentou sua ideia em um pitch de 5 minutos. Uma excelente apresentação seria fazer com que o público entendesse claramente o objetivo geral deste projeto, a proposta detalhasse como você está resolvendo o problema e uma imagem clara de como isso pode ser aplicável ao Cliente.

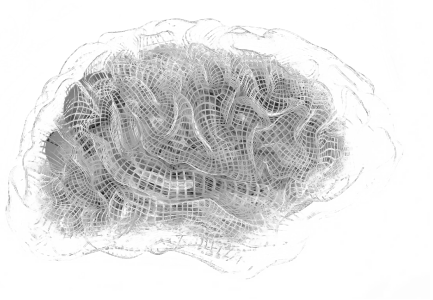
Quanto tempo para apresentar?

- 7 minutes (max 5 do pitch + 2 de demo) + 3 minutos Q&A
- Jurados - 2 minutos para notas na trix

CI&T Google Cloud

Prompt:

“OK, me dê uma sugestão de desenvolvimento do meu projeto para o desafio _____”

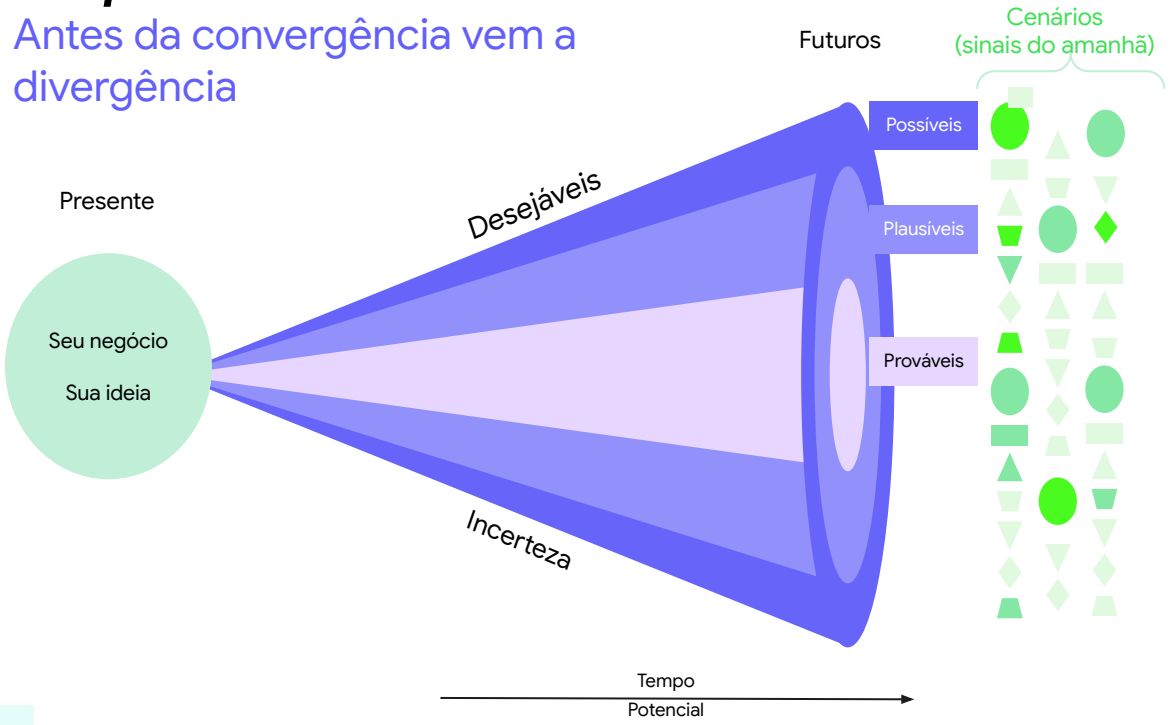


AI

CIST Google Cloud

Response:

Antes da convergência vem a divergência



"Precisamos ir além do provável"

Next Level Business / Google
AI
CI&T Google Cloud

Resposta:

Sugestão de etapas

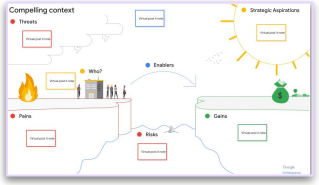
1
Definir usuários e suas necessidades

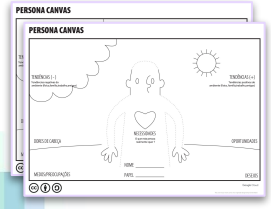
2
Detalhar as necessidades dos usuários

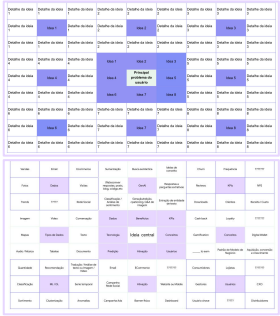
3
Ideação para as necessidades dos usuários

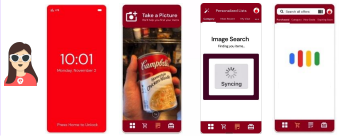
4
Detalhar jornada do usuário

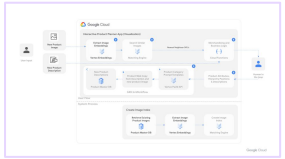
5
Protótipo e arquitetura de referência

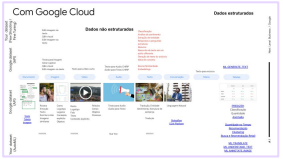


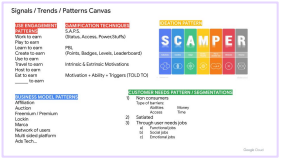












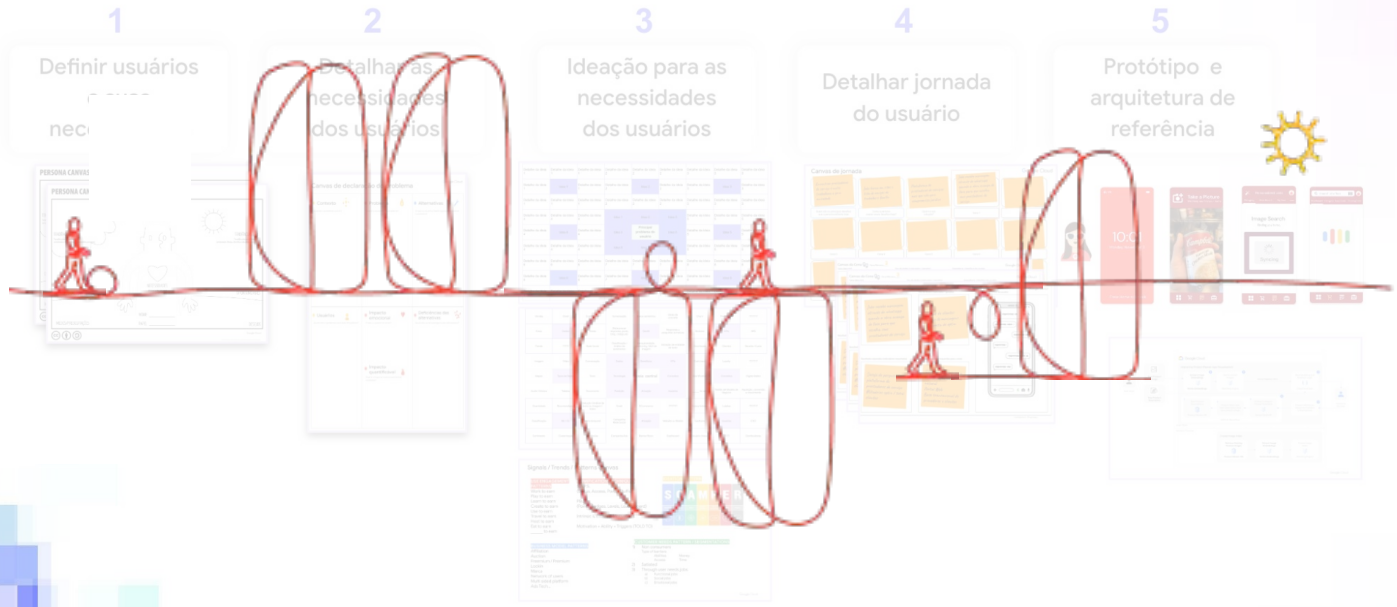
Next Level Business / Google

AI

CI&T Google Cloud

Resposta:

Sugestão de etapas



POR QUÊ:
Definir critérios norteadores do projeto

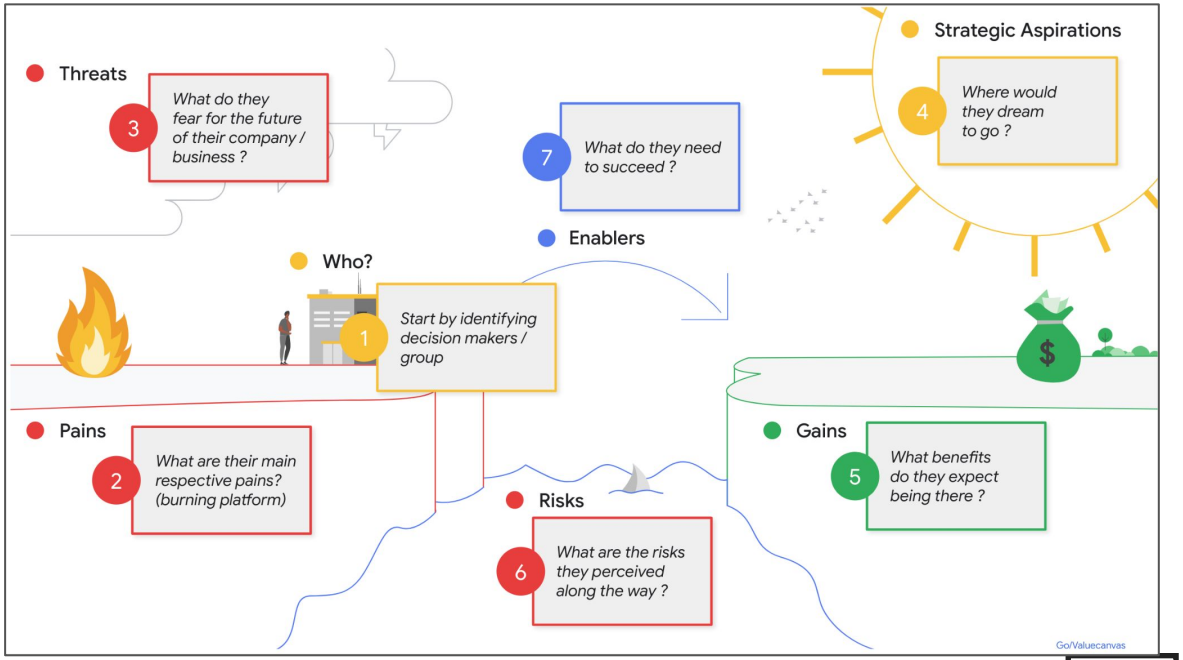
O QUÊ:
Refletir sobre o futuro do tema sendo discutido em sua mesa

COMO:
Crie uma mapa que representa o projeto..

a. Cada participante pode escrever 3 ideias (uma por post-it) individualmente e cole no canvas
b. Um participante atua como facilitador, revendo se existe similaridade e se necessário cada participante apresenta no grupo
c. Procure imagens que representem e novas ideias possam surgir

QUANDO:
30 minutos

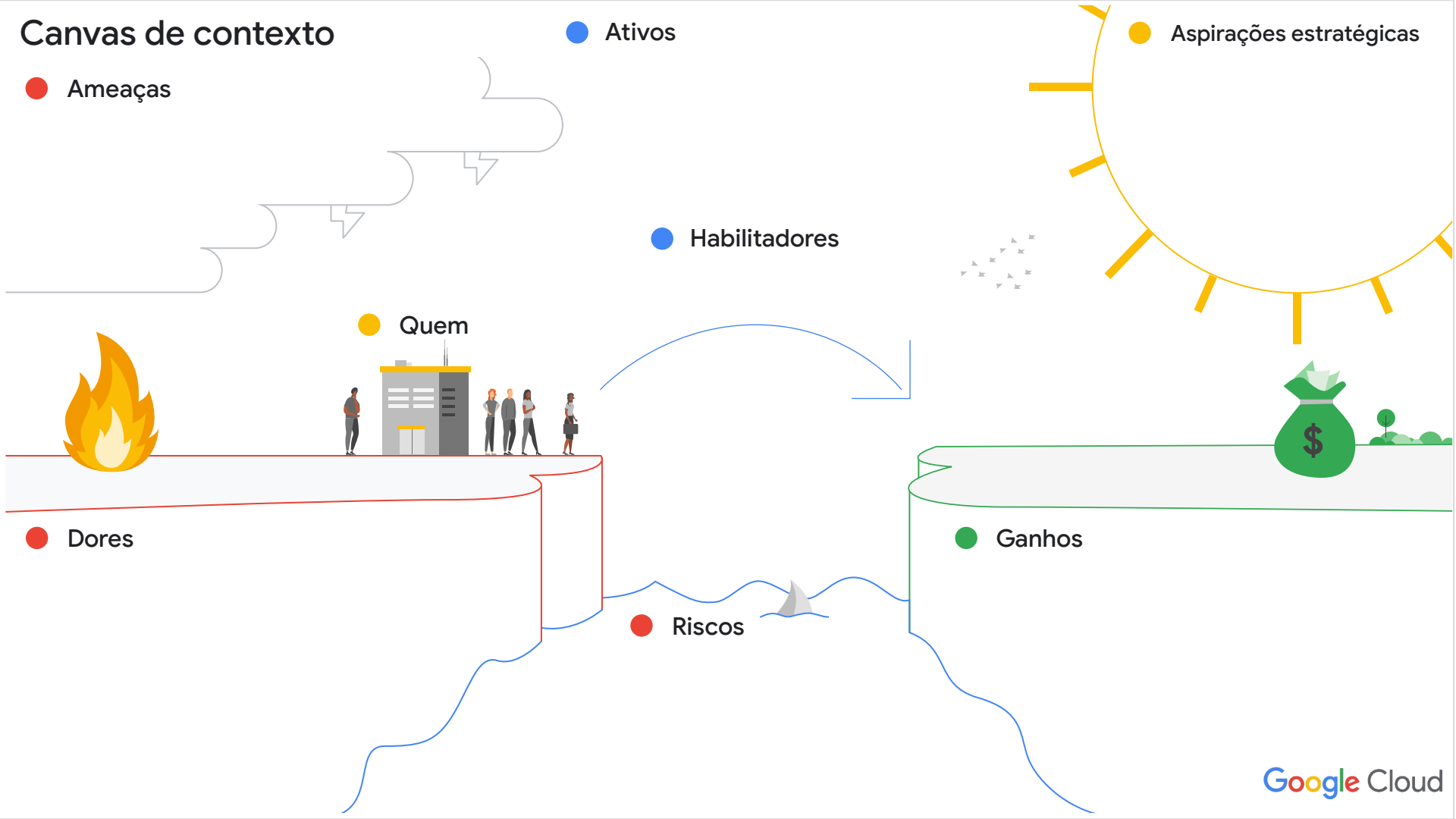
Recursos:
Post-it
Criatividade :-)



Prompt:
"Quais são meus objetivos de negócios ?"

CIST Google Cloud

Canvas de contexto



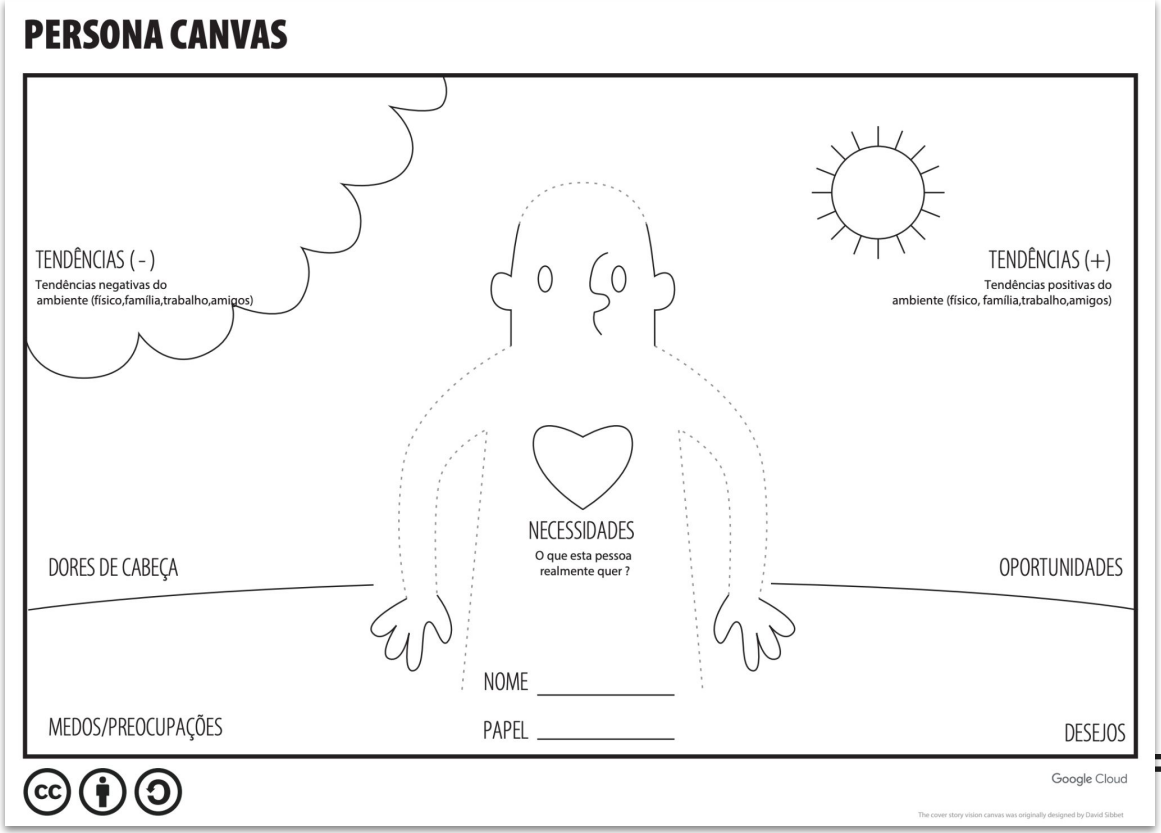
POR QUÊ:
Definir principais usuários envolvidos no projeto e suas necessidades

O QUÊ:
Entender em detalhe as necessidades **dos usuários** envolvidos no projeto

COMO:
Defina quais são as personas/usuários:

a. Grupo escolhe um elemento do canvas
b. Cada participante pode escrever 3-5 desafios (uma por post-it) individualmente
c. Cada participante cola no canvas
d. Em grupo procure afinidades
e. Repita para cada elemento do canvas até finalizar

Recursos:
Seu conhecimento
Colaboração
Post-it
Caneta sharpie
Criatividade :-)



Prompt:
"Quem é seu usuário e quais são suas necessidades?"

CIST Google Cloud

POR QUÊ:
Definir principais usuários envolvidos no projeto e suas necessidades de forma detalhada

O QUÊ:
Entender em detalhe as necessidades **dos usuários** envolvidos no projeto

COMO:
Defina quais são as informações relevantes

a. Grupo escolhe um elemento do canvas
b. Cada participante pode escrever 3-5 desafios (uma por post-it) individualmente
c. Cada participante cola no canvas
d. Em grupo procure afinidades
e. Repita para cada elemento do canvas até finalizar

Recursos:
Seu conhecimento
Colaboração
Post-it
Caneta sharpie
Criatividade :-)

Prompt:

"Quem é seu usuário e quais são suas necessidades em maior grau de detalhe?"

CIST Google Cloud

POR QUÊ:
Definir um conjunto máximo de ideias para entregar o futuro desejável e levando em consideração elementos externos

O QUË:
Considerando os exercícios anteriores, avalie como novas soluções (processos, pessoas de tecnologia) para alcançar o sucesso

COMO:
Crie o mural de ideias:

a. Cada participante pode escrever em cada um dos 8 blocos e depois vái detalhar
b. Eles olham para o que é semelhante/afinidade e decidem em conjunto que devem estar no mural
c. Repita até que todas as ideias estejam preenchidas no canvas de ideias
d. Decidir em grupo qual a ideia vencedora, ou a combinação delas

Recursos:
Seu conhecimento
Colaboração
Post-it
Caneta sharpie
Criatividade :-)

Detalhe da ideia 1	Detalhe da ideia 1	Detalhe da ideia 1	Detalhe da ideia 2	Detalhe da ideia 2	Detalhe da ideia 2	Detalhe da ideia 3	Detalhe da ideia 3	Detalhe da ideia 3
Detalhe da ideia 1	Idea 1	Detalhe da ideia 1	Detalhe da ideia 2	Idea 2	Detalhe da ideia 2	Detalhe da ideia 3	Idea 3	Detalhe da ideia 3
Detalhe da ideia 1	Detalhe da ideia 1	Detalhe da ideia 1	Detalhe da ideia 2	Detalhe da ideia 2	Detalhe da ideia 2	Detalhe da ideia 3	Detalhe da ideia 3	Detalhe da ideia 3
Detalhe da ideia 4	Detalhe da ideia 4	Detalhe da ideia 4	Idea 1	Idea 2	Idea 3	Detalhe da ideia 5	Detalhe da ideia 5	Detalhe da ideia 5
Detalhe da ideia 4	Idea 4	Detalhe da ideia 4	Idea 4	**Principal problema do usuário**	Idea 5	Detalhe da ideia 5	Idea 5	Detalhe da ideia 5
Detalhe da ideia 4	Detalhe da ideia 4	Detalhe da ideia 4	Idea 6	Idea 7	Idea 8	Detalhe da ideia 5	Detalhe da ideia 5	Detalhe da ideia 5
Detalhe da ideia 6	Detalhe da ideia 6	Detalhe da ideia 6	Detalhe da ideia 7	Detalhe da ideia 7	Detalhe da ideia 7	Detalhe da ideia 8	Detalhe da ideia 8	Detalhe da ideia 8
Detalhe da ideia 6	Idea 6	Detalhe da ideia 6	Detalhe da ideia 7	Idea 7	Detalhe da ideia 7	Detalhe da ideia 8	Idea 8	Detalhe da ideia 8
Detalhe da ideia 6	Detalhe da ideia 6	Detalhe da ideia 6	Detalhe da ideia 7	Detalhe da ideia 7	Detalhe da ideia 7	Detalhe da ideia 8	Detalhe da ideia 8	Detalhe da ideia 8

Prompt:
"Considerando o contexto XYZ do usuário me dê 8 ideias e projetos com uso de GenAI?"

CIST Google Cloud

Signals / Trends / Patterns Canvas

USE ENGAGEMENT PATTERNS

Work to earn
Play to earn
Learn to earn
Create to earn
Use to earn
Travel to earn
Host to earn
Eat to earn
_____ to earn

GAMIFICATION TECHNIQUES

S.A.P.S.
(Status, Access, Power,Stuffs)

PBL
(Points, Badges, Levels, Leaderboard)

Intrinsic & Extrinsic Motivations

Motivation + Ability + Triggers (TOLD TO)

IDEATION PATTERN

BUSINESS MODEL PATTERNS

Affiliation
Auction
Freemium / Premium
Lockin
Marca
Network of users
Multi sided platform
Ads Tech...

CUSTOMER NEEDS PATTERN / SEGMENTATIONS

1) Non consumers
   Type of barriers:
   - Abilities
   - Money
   - Access
   - Time
2) Satiated
3) Through user needs jobs
   a) Functional jobs
   b) Social jobs
   c) Emotional jobs

POR QUÊ:
Definir o que compõe a ideia vencedora

O QUË:
Considerando os dois exercícios anteriores, avalie como novas soluções em todos os aspectos.

COMO:
Crie o mural de ideias:

a. Cada participante pode escrever em cada um dos 8 blocos e depois vái detalhar
b. Eles olham para o que é semelhante/afinidade e decidem em conjunto que devem estar no mural
c. Repita até que todas os detalhamentos estejam preenchidas no canvas de ideias
d. Decidir em grupo qual a ideia vencedora, ou a combinação delas

Recursos:
Seu conhecimento
Colaboração
Post-it
Caneta sharpie
Criatividade :-)

Vendas	Email	Ecommerce	Sumarização	Busca semântica	Ideias de conceito	Churn	Frequência	???????
Fotos	Dados	Visitas	(Re)escrever respostas, posts, blog, código,etc	GenAI	Respostas a perguntas extrativas	Reviews	KPIs	NPS
Trends	?????	Rede Social	Classificação / Análise de sentimento	Geração/edição, cpationing, Q&A de imagem	Extração de entidade de texto	Downloads	Clientes	Receita / Custo
Imagem	Video	Conversação	Dados	Beneficios	KPIs	Cash back	Loyalty	???????
Mapas	Tipos de Dados	Texto	Tecnologia	Ideia central	Conceitos	Gamification	Conceitos	Digital Wallet
Audio / Música	Tabelas	Documento	Predição	Ativação	Usuários	_____ to earn	Padrão de Modelo de Negócio	Aquisição, conversão e crescimento
Quantidade	Recomendação	Tradução / Análise de texto ou Imagem / Vídeo	Email	ECommerce	???????	Consumidores	Lojistas	???????
Classificação	ML / DL	Serie temporal	Campanha Rede Social	Ativação	Website ou Mobile	Gestores	Usuários	CXO
Sortimento	Clusterização	Anomalias	Campanha Ads	Banner fisico	Dashboard	Usuário chave	?????	Distribuidores

Prompt:
"Do que sua ideia é feita?"

CIST Google Cloud

Canvas de Caso de Uso de AI

Google Cloud

Capturar dados

Tipos de origem

Tabelas

Imagens

Vídeos

Áudio

Documentos

Mapas

Conversas

Textos

Latência

Batch

Tempo real

Transformar e Armazenar

Configurar
Deduplicar
Encontrar nulos

Transformar ETL/ELT
Converter
Misturar
ID único

Transformar por ML

Linguagem natural, análise de entidade, análise de sentimento de entidade, classificação de conteúdo e análise.

Tradução

Entendimento de documentos

Fala-para-texto

Análise e comparação de imagens

Análise e comparação de vídeo

Analisar, Predizer e Gerar

Descritivo
- Comparação de Variáveis
- Tendência variável

Diagnóstico
- Quando
- Quem
- Onde

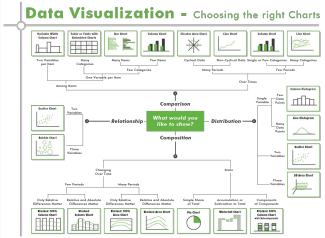
AI Preditiva

- Agrupamento por dados (por exemplo: Retardatários, Fanáticos)
- Prever uma classificação (ex: fraude, churn)
- Prever um número (ex: quantidade, preço)
- Prever um número no tempo (por exemplo: série temporal)
- Anomalia em eventos
-Texto-para-fala
- Recomendações de produtos ou conteúdo
- Análise de rede

AI Generativa
- Buscar
- Sumarizar
- Extrair
- (Re) escrever
- Agrupar
- Gerar
- Classificar

Visualizar

Painel Web e dispositivos móveis



Indicadores chave

Ativar

API (Monetizar)

Incorporar em portal

Agendamento por correio

Alertas através de condições

Campanha de e-mail marketing

Ativar em anúncios

Celular (App / SMS / Push)

Chatbot / Voicebot

Busca semântica

AR / VR

Totem

Usuários)

Como organização queremos...

Objetivos **KPI**
O que a organização quer alcançar. Isso não tem limite de tempo

Como área(s), então precisamos...

Objetivos **KPI**
informações específicas, mensuráveis e acionáveis necessárias para atingir a meta da organização.

Usuários)
Como [digite o tipo de usuário], eu quero...

Objetivos
O que o usuário deseja realizar para satisfazer uma necessidade de nível superior. Isso não tem limite de tempo

POR QUÊ:
Defina jornada da persona

O QUË:
Considerando o exercício anterior, avalie como as novas soluções (tecnologia, pessoas, processos) devem ser detalhadas do ponto de vista do usuário

COMO:
Crie o storyboard, dando vida a sua inovação, ela traz benefícios para a persona e para o negócio.

Recursos:
Seu conhecimento
Colaboração
Post-it
Caneta sharpie
Criatividade :-)

Prompt:
"Qual a jornada do usuário com sua ideia ?"

CIST Google Cloud

Canvas de jornada

Google Cloud

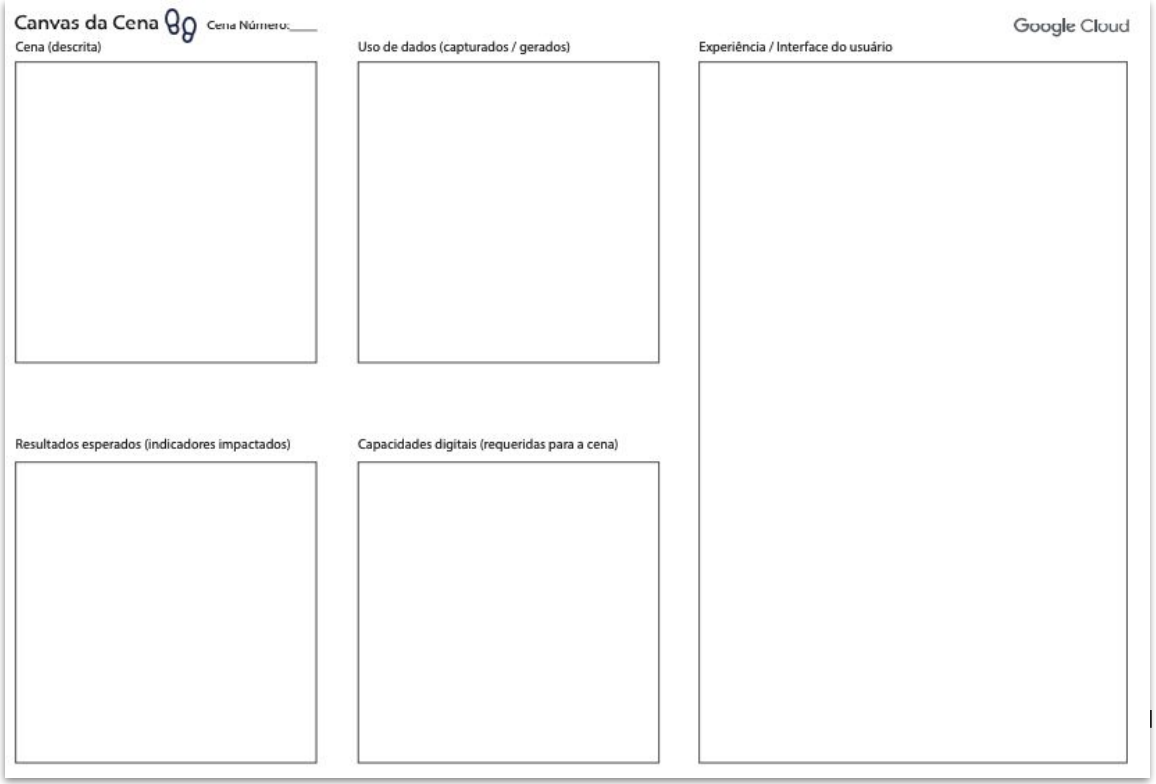
Quais são os principais desafios que a persona enfrenta hoje	Como a persona supera esses desafios hoje?	Qual é a sua solução?	Cena 1	Cena 2
Cena 3	Cena 4	Cena 5	Cena 6	Cena 7
Cena 8	Cena 9	Cena 10	Como resolve seu principal problema?	Saída: Quais são os principais benefícios e ganhos?

POR QUÊ:
Defina jornada da persona

O QUË:
Considerando o exercício anterior, avalie como as novas soluções (tecnologia, pessoas, processos) devem ser detalhadas do ponto de cada cena da jornada do usuário

COMO:
Crie o detalhamento de cada cena do storyboard, dando vida a sua inovação, ela traz benefícios para a persona e para o negócio através do detalhamento de cada cena.

Recursos:
Seu conhecimento
Colaboração
Post-it
Caneta sharpie
Criatividade :-)



Prompt:
"Como deve ser cada cena da jornada ?"

CIST Google Cloud

Canvas da Cena

Cena Número:____

Google Cloud

Cena (descrita)

Uso de dados (capturados / gerados)

Experiência / Interface do usuário

Resultados esperados (indicadores impactados)

Capacidades digitais (requeridas para a cena)

POR QUÊ:
Defina a melhor forma de vender seu projeto

O QUË:
Considerando o exercício anterior, avalie como as novas soluções (tecnologia, pessoas, processos) serão utilizadas pelos usuários

COMO:
Crie um mockup, uma tela, um dashboard, um app, código, dando vida a sua inovação.

Recursos:
Seu conhecimento
Colaboração
Post-it
Caneta sharpie
Criatividade :-)

Step 1: Ok Google, Open App

Step 2: Scan the product

Step 3: Product is identified

Step 4: Product information is spoken aloud

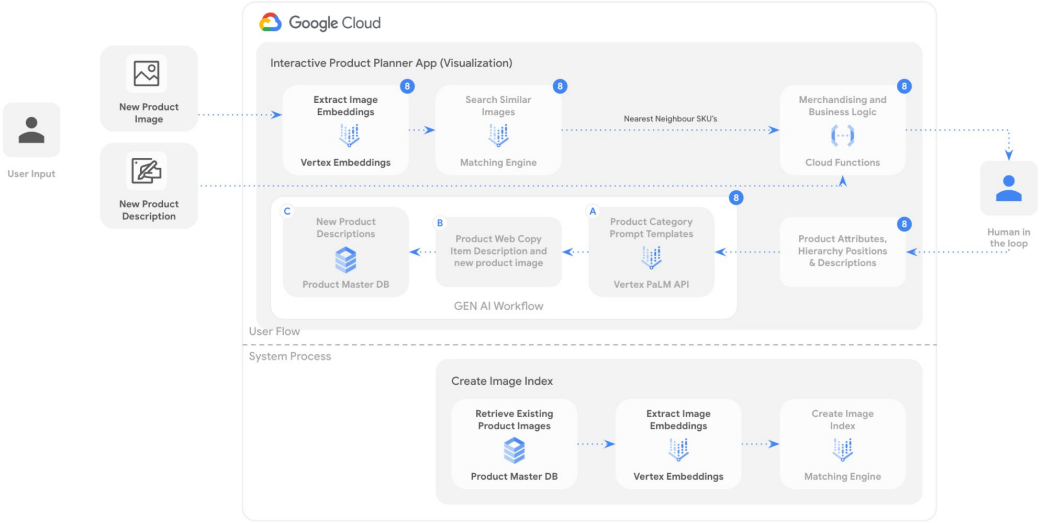
Prompt:
"Como o usuário irá utilizar a ideia ?"

POR QUÊ:
Defina a arquitetura do projeto

O QUË:
Considerando o exercício anterior, avalie como as novas soluções de Google Cloud + Terceiros devem ser detalhadas do ponto de vista do usuário

COMO:
Crie um diagrama que envolva todos os componentes para entregar o projeto

Recursos:
Seu conhecimento
Colaboração
Post-it
Caneta sharpie
Criatividade :-)

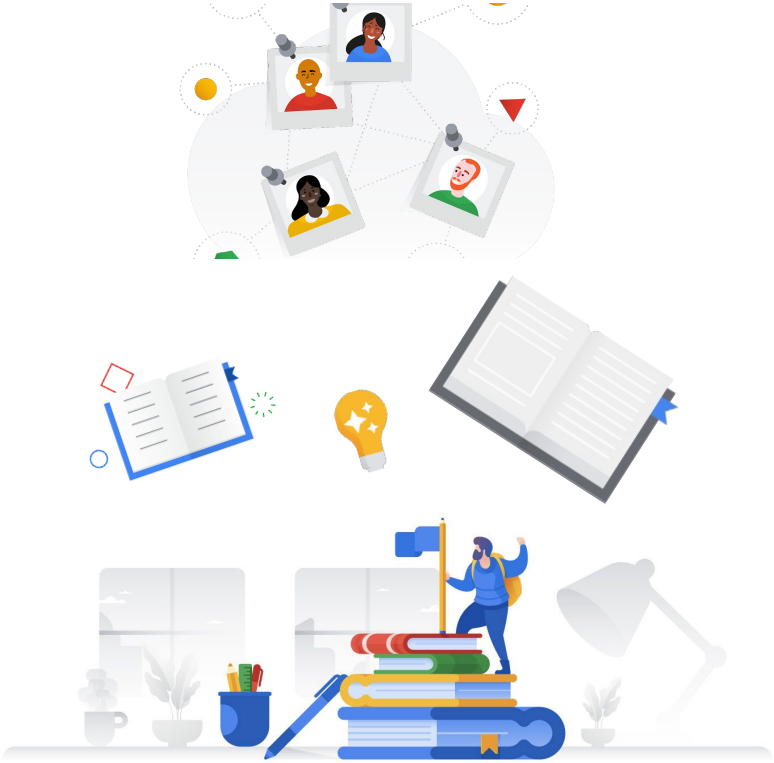


Prompt:
"Qual a arquitetura para entregar o projeto ?"

CIST Google Cloud

Proprietary + Confidential

Agenda



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11h00 – 12h30 Fase II - Google Vertex AI (Labs)

12h30 – 13h30 Almoço

05 13h30 - 14h00 Conectando com o mundo real

06 14h00 - 16h10 - Agora vocês conectando com o mundo real

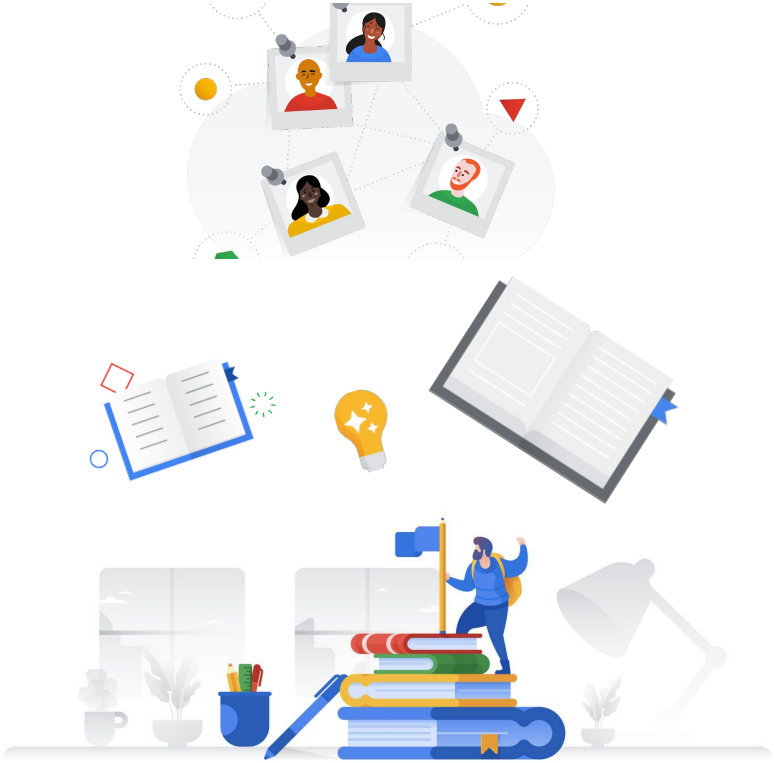
07 16h10 - 16h30 Apresentação dos pitches

09 16h30 – 17h00 Levando para a minha empresa

CIST Google Cloud

Proprietary + Confidential

Agenda



01 9h00 – 9h20 Abertura

02 9h20 – 9h40 Premissas

03 9h40 – 10h30 AI, o que aprendi e fez a diferença

04 Agora é o momento de vocês
10h30 – 11h00 Fase I - Google AI Studio (protótipos)
11h00 – 12h30 Fase II - Google Vertex AI (Labs)

12h30 – 13h30 Almoço

05 13h30 - 14h00 Conectando com o mundo real

06 14h00 - 16h10 - Agora vocês conectando com o mundo real

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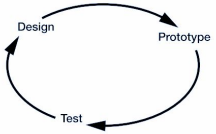
09 16h30 – 17h00 Levando para a minha empresa

CIST Google Cloud

cultura de experimentação

(rode MVPs para validar hipóteses)

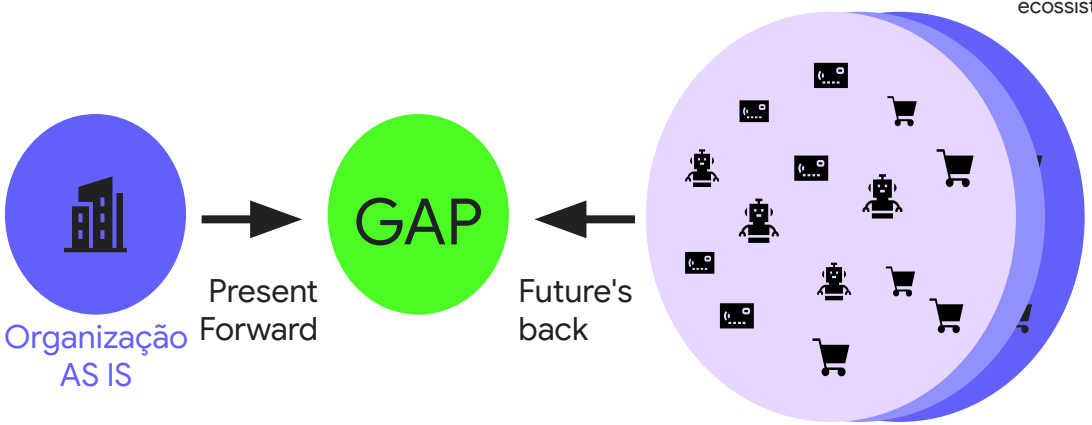


cultura antecipatória

(seja um líder e não um seguidor)

Olhar para ecosistema

(onde você quer jogar, sozinho ou através do ecossistema)



"desenvolver novos conceitos para não colocarmos novos conceitos em velhas caixas"

cultura de tomada de risco

(perda reparável)

processos e ferramentas

(autonomia mas conectado ao negócio)

Foco na impermanência

(qual realidade queremos mudar, pois nosso negócio é apenas um avatar para nossa visão de mundo)
(o fim da vantagem competitiva

The executive's guide to generative AI.

Google Cloud

10 passos para lançar seu primeiro caso de uso em 30 dias

Passo 1
Identifique um domínio específico

Passo 2
Selecione uma persona

Passo 3
Determinar fontes de dados

Passo 4
Criar uma time focado

Passo 5
Defina seus objetivos

Passo 6
Design de Prompts com a equipe

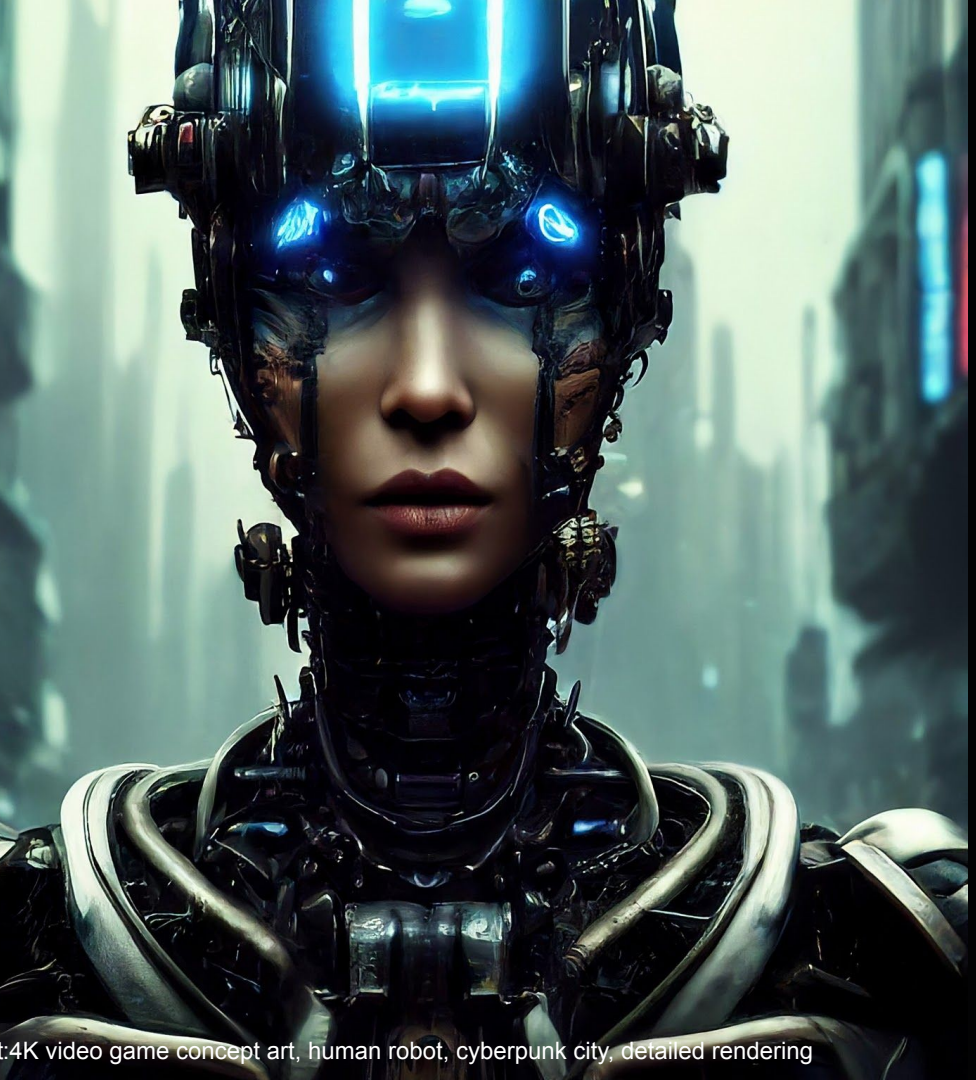
Passo 7
Construir experiência do usuário e telas

Passo 8
Expandir para mais usuários

Passo 9
Construir plano de operações

Passo 10
Expandir para mais uso casos

Google Cloud



ANEXO I

GenAI
Guia executivo

Google Cloud

The executive's guide to generative AI.

Google Cloud

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- How to launch your first use case in 30 days
- KPIs to measure the impact of generative AI

Section 03

The value of generative AI in every industry

- See what your peers are doing
- Retail and CPG
- Financial services
- Healthcare and life sciences
- Media and entertainment
- Manufacturing
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Conclusion

Innovate faster with generative AI for business

Introduction

Generative AI marks one of the most significant technological shifts in history.

Its impact on individual and business productivity can be significant, with the potential to rival the advent of the internet or the mobile device. Indeed, among organizations considering or using AI, 82% believe it will either significantly change or transform their industry.[1]

What makes generative AI different from other forms of AI that have come before is its ease of use in helping solve everyday problems in people's personal or professional lives. Anyone who knows how to ask a question of a search engine can use everyday language to interact with a generative AI chatbot or virtual agent — getting it to answer questions, create content, produce images, summarize documents, and much more.

Even better, a single generative AI platform can deliver solutions for multiple use cases, creating a network effect. As the number of users and applications increases, the model is exposed to more data and becomes increasingly accurate and useful — which in turn encourages more users.

Organizations that use generative AI to speed up, automate, scale, and improve business processes stand to reap big benefits. According to McKinsey & Company, generative AI's impact on productivity could add between $2.6 trillion and $4.4 trillion USD annually to the global economy.[2]

No technology ever takes away the fundamentals of your value proposition and the core value chain in your industry. At the end of the day in healthcare, for example, you're still trying to improve patient care.

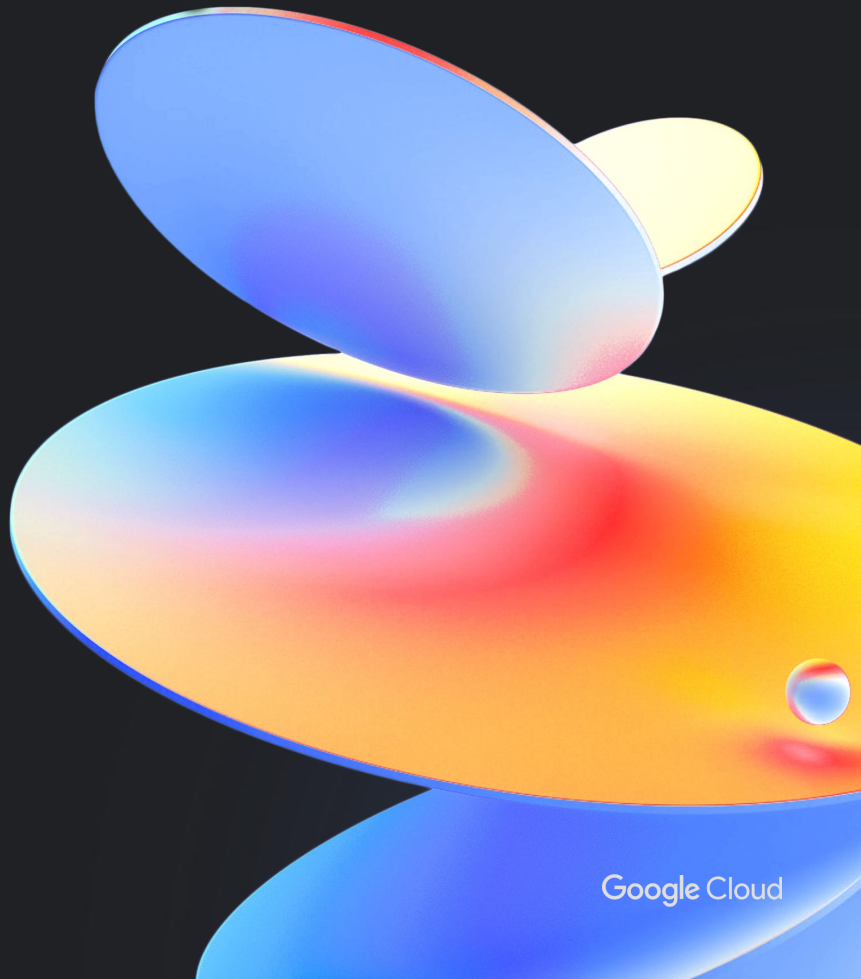
What can change, though, is how you use this technology to enable your teams to improve core offerings, and how you solve fundamental problems that get in the way of delivering them. Indeed, with the right tools, you could even identify and deliver new points of difference.

1. Google Cloud Gen AI Benchmarking Study, July 2023
2. McKinsey & Company, The economic potential of generative AI, 2023

This guide is for business leaders who want to kickstart their organization's generative AI journey.

In the first section, you'll learn what generative AI is, what it is capable of, and the impact you can expect when applying it in a business context. The second section provides a Passo-by-Passo guide for getting started with generative AI, with recommended best practices from Google Cloud's AI experts. Next, we dive into real-world examples of pioneers across industries who have adopted generative AI to work smarter, deliver value to customers faster, and unlock new revenue channels.

With generative AI technology moving so fast, it can be overwhelming. We're here to help you chart the right path.



Section 01

A quick primer on generative AI

This generation of technology is the most approachable and flexible technology that computer science has ever built. It can solve problems that the algorithm wasn't purpose-built for. And, any business user can quickly experiment and get feedback to shape its use for their particular business problem."

Philip Moyer

Global VP, AI & Business Solutions, Google Cloud

Every day, people in your business spend time and energy digging for information to make decisions, serve customers, and move your business forward. Informed decisions require information, and collecting the right inputs can take time.

Suppose you need to know how ad spend impacts customer perceptions. Or you want to see the trends in a competitor's patent filings, R&D investments, and technology acquisitions. Information like this exists somewhere in your organization, often across a bunch of places. You need it to decide the next Passo — and, to obtain it, experts need to be convened, research completed, and the information compiled and synthesized. If you have a follow-up question, the whole process might have to start again.

From executives digging into strategic trends to salespeople creating product demos or new employees with benefits questions — everyone in your organization can relate to this frustration. But that's changing.

Imagine giving each person in your company not only a personal assistant, but an expert in every piece of data relevant to their job and, indeed, potentially every piece of data across your whole organization. With an assistant like that, impatient moments of indecision would dwindle. Everyone would be empowered to spend less time waiting and more time doing.

With generative AI, this is achievable. And it's just one example of the many disruptions this technology has unlocked. Always-on coding collaborators. Brainstorming assistants to draft and iterate content. Personalized self-education on any subject. Human-like interactions with customers wherever they need you, for whatever reason. Generative AI is all these things and more. In time, it will affect almost every aspect of every business.

Foundation models are the engine powering generative AI.

Generative AI applications are powered by foundation models, which are trained on vast amounts of content. For example, Large Language Models (LLMs) are one type of foundation model, trained on text or language. Other multi-modal types can be trained on images/photos, video, music, software code, medical information, or cyber security data. But access to models alone won't position your business for success.

Foundation models are best thought of as probability engines that can be nudged and shaped by human input. Because they are probabilistic, they are fundamentally different from traditional software paradigms. When today's apps need to look up product prices or validate customer information, they use deterministic functions that call a database. In contrast, foundation models use the patterns they learn during training and tuning to calculate the most probable output, such as the most likely answer to a question or an accurate caption for an image.

Since they're not confined by rows and columns in a database, foundation models are extremely powerful. They're often capable of performing many downstream tasks — such as Q&A, summarization, or open-ended content generation — with little or no additional data or tuning. Yet they can also be expensive to train and run, prone to inaccurate outputs, and difficult to work with.

For these reasons, generative applications aren't reducible to generative models. Your intelligent applications will need to mix probabilistic foundation models with traditional, deterministic (in other words, constrained) programming. Deterministic models are constrained to what can flow out of them, and are limited by endless options that have to be pre-established.

Traditional AI is purpose-built for the task at hand. It is all about optimizing and tweaking existing processes such as forecasting specific patterns that have been pre-determined by humans. It's why traditional AI can be used to automate discrete, standardized processes in specific areas of the business, such as customer service.

In comparison, generative AI models have emergent capabilities where they can perform multiple tasks, even if they were not explicitly trained for them during the instruction tuning phase. It is this ability to multitask, plus the freedom afforded by the prompting interface, that enables these models to perform in a wide variety of use cases.

Core capabilities and applications

At the core, generative AI has four capabilities:

- Creation
- Summarization
- Discovery
- Automation

And it tends to excel in four applications:

Chat

It's no coincidence that generative AI has gained rapid popularity and adoption through simple chat interfaces. Chat is a natural way to interact with powerful generative AI models. You can use it to improve customer interactions, enhance product capabilities, train employees, and more.

Search

By combining generative AI capabilities with search, you can anchor on a knowledge base — either internal or external — for more tailored and targeted interactions. Using generative AI for search can help eliminate hallucinations by sourcing information from a factual knowledge base.

Generate content

The ability to generate high-quality text, images, speech, and code has enormous potential. Whether it's speeding up processes or helping employees turn ideas into output faster, generative capabilities can be deployed into products, tools, and workflows.

Associative reasoning

This is the ability to suggest associations in information based on context, frequency, or proximity. For example, generative AI could identify the three most common reasons that a call center interaction ends negatively by parsing the large amounts of transcribed conversations.

Read our glossary on generative AI terms and concepts.

Section 02

The step-by-step guide to getting started

To enable your foundation models to get very smart, very fast, pick one functional domain in your business and experiment in that area.

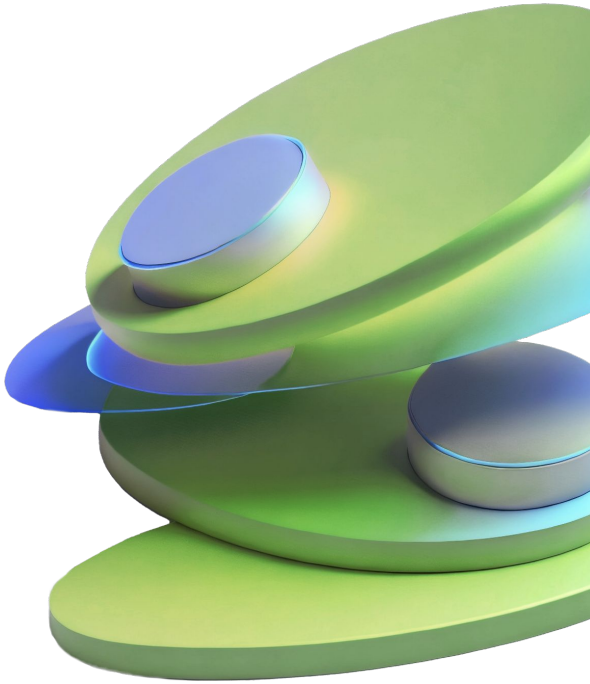
By clustering use cases into a domain, you can start with one, and then when that's working, you can naturally expand to your second, third, and fourth use case within the same domain. The more you throw at a model, the smarter it gets.

Take customer service, for example. First, let's say you give your call center agents a generative AI tool with a conversational interface to use when taking phone calls. Customers might call in and say, "My credit card no longer works." Or "I lost my passcode." Or "When I go traveling, how do I make my cell phone work internationally?" Your agents can answer these questions naturally, querying the generative AI interface to provide an answer using similar wording to how the customer asked the question.

Then, you can look at the aggregate of those queries and ask generative AI, "What questions are being asked most frequently? What's our response time? What responses do we provide?" Now, you're moving from just answering customers' questions to summarizing their data.

Third, using this summarization, you can prompt generative AI to take the most frequently asked questions and compare them to the FAQs on your website. You can then ask it to generate answers to any questions not answered on your website, so you can publish them.

In this example, generative AI solves three use cases that enhance the customer service domain — answer the question, summarize what's being asked, and produce answers to these questions. With each use case, the model gets smarter.



10 Passos to launch your first use case in 30 days

Follow these Passos for a fast, easy, and low-risk approach to starting your organization's generative AI journey.

We've included KPIs to help you demonstrate impact to your leaders, foundational processes to scale across domains, and recommendations to allow your teams to experiment in a safe, internal setting so they can gain experience with the new technology.

Passo 1
Identify a specific domain

Passo 2
Select a persona

Passo 3
Determine data sources

Passo 4
Create a tiger team

Passo 5
Define your goals

Passo 6
Design prompts with tiger team

Passo 7
Build UX and UI

Passo 8
Expand to more users

Passo 9
Build an LM operations plan

Passo 10
Expand to more use cases

Google Cloud

Passo 1 of 10

Identify a specific domain

Choose a domain in your company that could benefit from generative AI, such as customer service, patient intake, corporate actions, or marketing content.

Key questions:

In which areas of the business do employees spend significant time on repetitive tasks?

Is there a process or part of a role that is, in effect, already standardized (e.g., having to do a particular Passo or answer a question every time)?

Where do employees get stuck in the creative process (e.g., writer's block or creative block)?

Would an incorrect response or hallucination cause harm?

Which areas of the business offer the lowest-risk environment for initial use cases?

Do you have a large corpus of data that you want to activate, or make more useful?

Is there an area of the business where employees consistently have to search for existing information using internal knowledge bases and/or external search engines?

Passo 2 of 10

Select a persona

Determine which job category or function within the chosen domain you want to make more productive.

Consider these three factors:

Look at job roles that are hard to retain and hard to hire.

Such roles are often repetitive and offer little career advancement. Automating these tasks can free up employees to focus on more strategic work.

Find opportunities to automate repetitive, tedious tasks that are necessary to generate revenue.

For example, the multi-trillion dollar pre-authorization industry in healthcare is incredibly frustrating for patients. It can take hours or even days to get authorization for a simple MRI or specialist visit, and the process is often paper-based. Investment memorandums are another example in which the same information must be gathered over and over again. Generative AI can help automate these tasks so employees can focus on more strategic work.

Make safety and compliance ambient.

Many industries must meet strict requirements to be compliant. In life sciences, for example, every claim about the efficacy of a medicine must be reviewed by an attorney to ensure the language is compliant. An attorney must then review the claim to ensure certain clauses are included in every instance of the fine print. This can be time consuming and repetitive, but is an essential part of the process for making medicine publicly available. Generative AI can help automate critical tasks that help organizations improve accuracy and reduce risk.

Passo 3 of 10

Determine the data sources the persona needs to be productive

Your generative AI model will be trained on the data you gather. This data should be honed for the specific business or domain-level problem it is trying to solve, and accessible through enterprise data sources.

For example, if you select a marketing manager as your first persona, it's important to understand the specifics of their job role. Say they are responsible for creating digital campaign content like ebooks and reports. These assets are promoted and used to capture leads via online forms. If the individual fills out the form and opts in to receive outreach about related topics, the lead is entered into a marketing automation program and scored based on pre-determined criteria set by marketing and sales operations teams. If the lead meets the criteria for qualified sales opportunities, it may also be handed off to the sales team.

This individual job role requires several data sources, including:

- A word processing tool like Google Docs to write, edit, and collaboratively review the copy
- A design tool to lay out and format the final copy
- A web platform to publish the content online
- A marketing automation tool to track and measure marketing engagement, tasks, and workflows
- A CRM like Salesforce to ensure sales, support, and marketing are coordinated across all user touchpoints and customer interactions

By starting off with the right data to feed into and fine-tune models, your organization will be able to:

Mitigate hallucinations

AI models are trained to give users what they want, which means they occasionally spit out made-up answers that sound convincing and can be hard to spot. To avoid this problem, you can ground responses in specific data rather than relying on the LLM alone.

Enhance the explainability of AI

Generative AI models can be complex, and the 'thinking' that an algorithm uses to produce an output isn't always clear. Explainable AI is like a sliding scale — there are degrees to which you can explain or reliably steer an LLM's behavior.

Passo 4 of 10

Create a three-person tiger team

Include people from both business and technology:

Individual from the business

Responsible for detailing the job requirements, workflows, challenges, and needs of the day-to-day tasks executed by the chosen persona.

Prompt engineer

Responsible for translating the business persona's needs, actions, and output into prompts for the generative AI model(s).

ML operations lead

Responsible for building and operating the application in production.

Passo 5 of 10

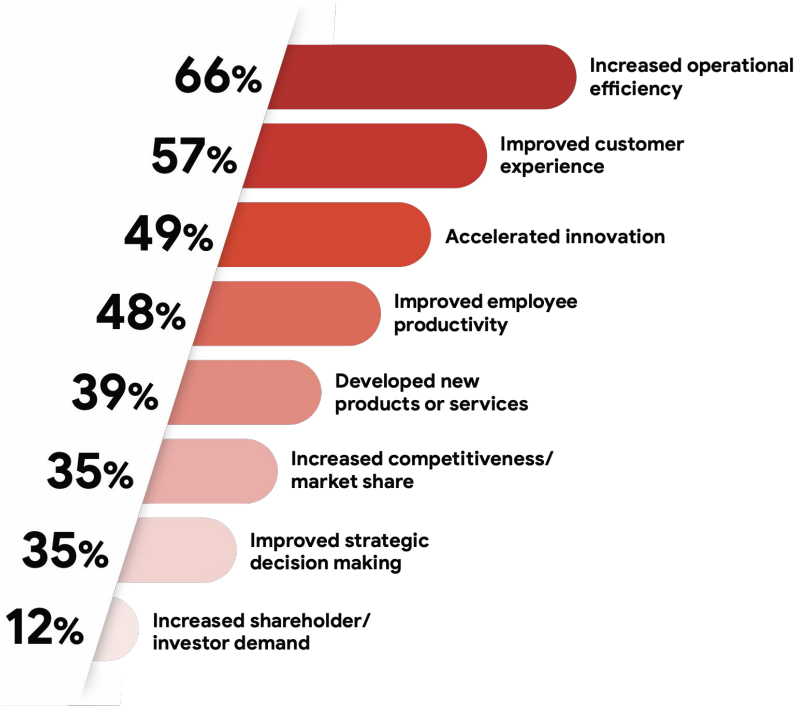
Define your intentions, objectives, and the output you are trying to achieve

Ensure you have a human in the loop to oversee the first use cases and provide oversight.

Keep in mind, the value of a generative AI project can come from a number of sources. There's direct business value, incremental value of generative AI over legacy systems or traditional AI/ML, and the forecasted value of capabilities once scaled to other use cases.

Consider the following outcomes, which other organizations have experienced after adopting AI:[3]

Outcomes organizations report after adopting AI



3. Google Cloud Gen AI Benchmarking Study, July 2023

Passo 6 of 10

Design prompts together with the tiger team

Work collaboratively with the tiger team to design prompts that will guide the generative AI model's responses.

Your three-person tiger team has expertise in the business need, the AI model(s), tuning, and application integration. Use their skills and refer to prompt samples to move quickly in this Passo.

Passo 7 of 10

Build a user experience (UX) and user interface (UI)

Create a user-friendly experience and interface that will run the generative AI model in production for the chosen persona's use case.

Here are some tips to keep in mind:

Keep the interface and design simple.

Begin with a selection screen which allows users to choose the personality to apply to the generated text, images, or output. For example, options could include 'formal', 'casual', 'technical', or 'creative'.

Create a logical and intuitive user flow that guides users through the AI model's functionality. Ensure that the interface design aligns with the expected user journey.

Consider how the new interface fits within the larger ecosystem of existing apps, like email and chat, that might have their own built-in generative AI capabilities.

Google Cloud

Ensure the UI/UX is responsive and accessible across different devices

Passo 8 of 10

Expand usage to additional individuals

Once you are getting acceptable results from tuning, invite two or three other individuals within the chosen persona to start using the model.

Continue testing, measuring, and tuning with this group until you are getting consistent, quality outputs, then expand usage to five to 10 more people within the chosen persona and continue fine-tuning the process.

With each new individual, make sure you understand the different ways each user interacts with the generative AI model. To do so, conduct user interviews, surveys, or workshops to gather insights into user preferences, pain points, and desired functionalities for the AI model's interaction.

Passo 9 of 10

Build a Language Model (LM) operations plan

Develop a plan for productionizing and monitoring the AI model's output to ensure it functions effectively and safely.

Key questions to ask your management team:

Can we quickly evaluate and experiment with generative AI?

Do we have cost controls during evaluation and experimentation?

How are we measuring impact? Do we have targeted goals and frequent checkpoints to ensure progress?

Do we have a mechanism for continuous improvement? Are we able to assess, evaluate, and re-engage to go deeper within existing use cases or expand to more use cases?

An LM operations plan should include, but is not limited to:

Infrastructure setup

Prepare the necessary infrastructure for model deployment, including scalable compute resources and storage. Set up a version control system to manage model versions effectively.

Deployment and monitoring

Deploy the model in a controlled environment, such as a staging environment, to monitor its behavior before going live. Implement monitoring tools to track model performance, safety, and resource utilization during production.

Output and quality

Develop a system to capture the AI Develop a system to capture the AI model's output and evaluate its quality, so you can measure the effectiveness of the AI-generated responses. Jump to the next section for a list of recommended KPIs that can be used to measure generative AI use cases.

Regular audits and evaluation for expansion

Establish a regular evaluation cadence to assess the quality of the AI-generated output and a plan for further expansion to other areas within the same domain.

Continuous performance improvement and model updates

Performance — which is defined by quality and latency — requires updates to the model to incorporate the latest research advancements and improvements. Conduct A/B testing to evaluate the impact of model updates on safety and effectiveness.

Security and compliance

Ensure the entire system is secure, with appropriate access controls and encryption mechanisms to protect sensitive data. Comply with relevant regulations and responsible AI guidelines.

Human-in-the-loop oversight

Set up a human-in-the-loop process to review and moderate generated content, especially in sensitive or high-risk applications. Develop a feedback loop to continually improve the model's safety and effectiveness based on human moderation.

Incident response and remediation

Develop an incident response plan to handle potential safety breaches or issues promptly and effectively.

Passo 10 of 10

Expand usage to additional use cases within the same domain

In the beginning of this chapter, we explained how an organization could start with one generative AI use case and naturally expand into three use cases that all enhance the customer service domain: first, it helped customer service agents answer the question; second, it summarized the frequently asked questions agents received over the phone; and third, it produced answers that could be posted online as written FAQs.

With each use case added to the model, the model itself became more accurate in the domain.

Looking ahead at days 60–90

Once you are ready to extend your use case to external users and/or third-party data, use these methods and tactics to scale quickly and safely:

01

Host a hackathon

Harness enthusiasm across your teams by hosting a hackathon, which encourages employees to brainstorm ideas and get hands-on with AI — all within a matter of days.

02

Bring in partners

In addition to sharing their expertise, partners can consult on business value and technical implementations, provide training, and even work side-by-side with your teams to transfer knowledge as they build out your implementation.

03

Create a center of excellence

Excitement about new technologies can often lead to widespread use. A center of excellence in models, tuning, and application integration can help to standardize processes, share knowledge, and ultimately drive innovation.

KPIs for generative AI

When evaluating projects, consider the feasibility, actionability, affordability, anticipated business value, and ultimate return on investment of each generative AI project.

Like any technology investment, you need to prove its worth. Embed ROI measures into every use case and project, and establish KPIs to keep a pulse on progress along the way.

Consider using these commonly used generative AI KPIs to measure and report on the value of generative AI to your organization, board members, and stakeholders. These KPIs apply to generative AI use cases across various domains and industries.

Accuracy

Measure the accuracy of the Measure the accuracy of the generative AI model in producing relevant and correct outputs. This can be quantified using metrics such as precision, recall, F1 score, or mean squared error, depending on the nature of the use case.

Productivity

Assess the impact of generative AI on the productivity of the target persona or department. This could include metrics like the number of tasks completed per unit of time, response time, or reduction in manual effort required.

Customer satisfaction

If the generative AI use case involves customer-facing applications, use customer satisfaction surveys or feedback to gauge how well the AI system meets customer needs and expectations.

Cost savings

Measure the cost savings achieved through the use of generative AI. This may involve comparing the costs of employing the AI system to the expenses associated with traditional manual processes or outsourcing.

Turnaround time

Evaluate the time taken for the generative AI model to generate responses or outputs compared to traditional methods. Faster turnaround times can lead to increased efficiency and improved customer experience.

Quality of output

Assess the quality of the generative AI outputs against predefined criteria. This can be done through manual review or automated quality checks, depending on the use case.

Error rate

Quantify the rate at which the generative AI model produces incorrect or undesirable outputs. Minimizing error rates is crucial for maintaining accuracy and reliability.

Business impact

Identify specific business metrics that are directly impacted by the generative AI use case, such as increased sales, reduced customer complaints, or improved employee retention.

Training time and cost

Measure the time and resources required to train and fine-tune the generative AI model. Efficient training processes can lead to faster implementation and quicker time-to-value.

Human-in-the-loop metrics

If human intervention is involved in the generative AI process, track metrics related to the efficiency and effectiveness of human oversight.

Scalability

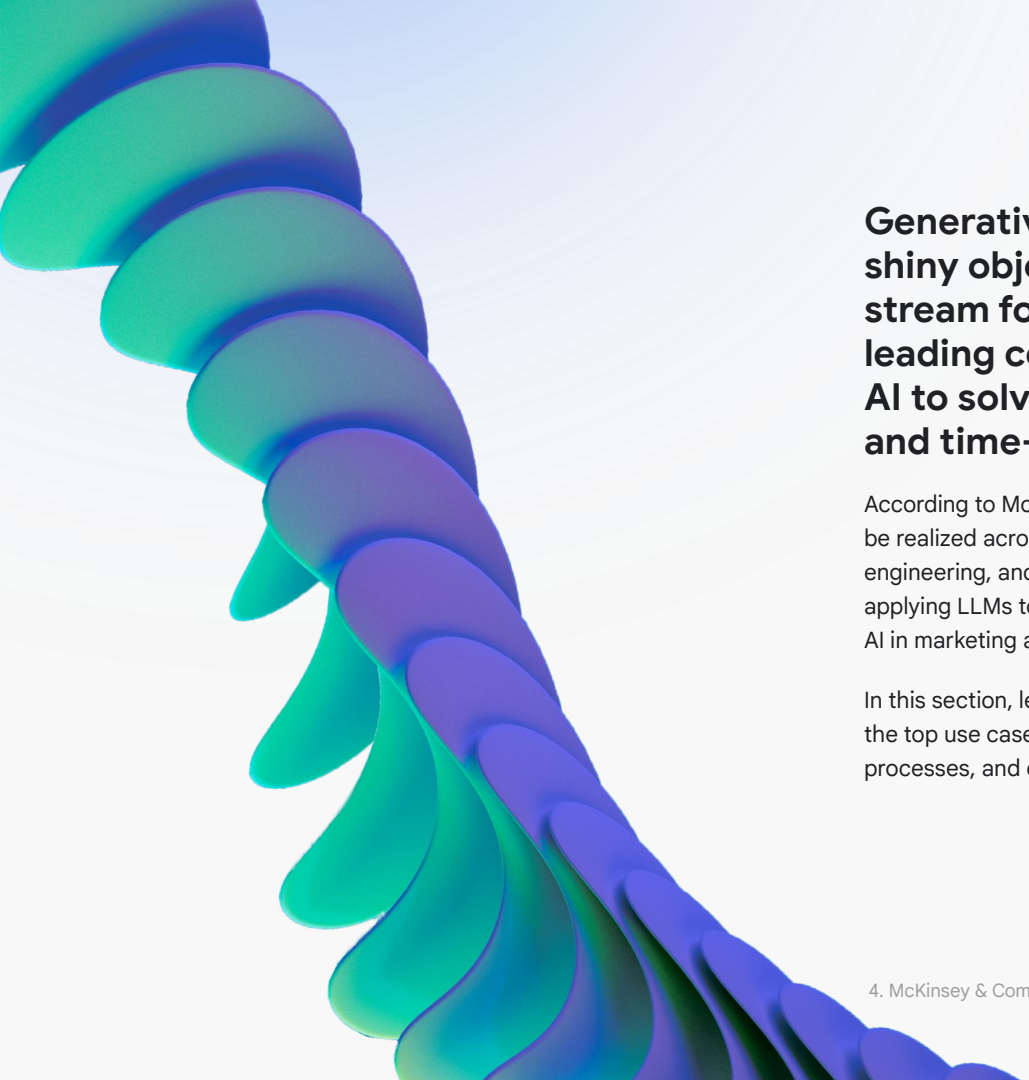
Assess how well the generative AI model scales to accommodate increased usage or higher demands. Scalability is essential for long-term success.

Regulatory compliance

For sensitive domains like healthcare or finance, monitor how well the generative AI system adheres to relevant regulatory requirements and data privacy standards.

Section 03

The value of generative AI in every industry



Generative AI is more than a bright shiny object — it is an entirely new value stream for business leaders. Already, leading companies are using generative AI to solve some of their most common and time-intensive problems.

According to McKinsey & Company, 75% of generative AI's value will be realized across customer operations, marketing and sales, software engineering, and R&D.[4] It's already happening, with companies applying LLMs to use cases such as conversational AI in marketing and e-commerce.

In this section, learn how industry leaders are applying generative AI to the top use cases in every industry to unlock new value chains, rewrite processes, and do business in faster time frames and at a lower cost.

4. McKinsey & Company, The economic potential of generative AI, 2023

“Generative AI opens up a new avenue, allowing people to think fundamentally differently about how business works. Whereas AI and ML were more about productivity and efficiency — doing things smarter and faster than before — now, it’s ‘I can do it completely differently than before’.

Carrie Tharp

VP Strategic Industries, Google Cloud

See what your peers are doing

To accelerate your path to value, familiarize yourself with the industry-specific use cases being adopted today. See how the leaders are realizing value in their organizations, and get inspiration for your own.

Explore them all or jump straight to your industry:

- Retail and CPG
- Media and entertainment
- Financial services
- Manufacturing
- Healthcare and life sciences
- Communications service providers

Google Cloud

Retail and CPG

Insight

82%

of retail organizations consider customer service automation to be valuable[5]

5. Google Cloud Gen AI Benchmarking Study, July 2023

Priority use cases

Creative assistance

Empower retail creative teams to create bespoke images and creative content for campaigns and editorial placements, and enable 1:1 personalization.

Conversational commerce

Interactively address queries, provide recommendations, and engage with customers in real time to help them make shopping decisions (for example, “Sure, here are some dresses in your size and style you may like, and here are influencer images for style inspiration”).

Customer service automation

Streamline customer service with conversation summaries and task automation.

New product development

Enhance internal consumer research with easy querying, summarization, and insight generation. Create copy concepts and claims for further testing, and visual concepts for product and packaging designs.

Real-world example

Wendy's® revolutionizes the drive-thru experience

Wendy's is automating its drive-through service using an artificial intelligence chatbot powered by natural-language software developed by Google and trained to understand the myriad ways customers order off the menu.

With 75 to 80% of Wendy's customers choosing the drive-thru as their preferred ordering channel, delivering a smooth ordering experience using AI automation can be difficult due to the complexities of menu options, special requests, and ambient noise. For example, because customers can fully customize their orders and food is prepared when ordered at Wendy's, this presents billions of possible order combinations available on the Wendy's menu, leaving room for miscommunication or incorrect orders.

Google Cloud's generative AI capabilities can now bring a new automated ordering experience to the drive-thru that is intended to enhance the experience that customers, employees, and franchisees expect from Wendy's.

Wendy's is beta-testing Google Cloud's AI technology in a Columbus, OH-area, company-operated restaurant, and will use the learnings to inform future expansions to more Wendy's drive-thrus. The test will include new generative AI offerings, such as Vertex AI Search and Conversation and more, to have conversations with customers, the ability to understand made-to-order requests and generate responses to frequently asked questions.

This will all be powered by Google's foundational LLMs that have the data from Wendy's menu, established business rules and logic for conversation guardrails, and integration with restaurant hardware and the Point of Sale system. By leveraging generative AI, Wendy's seeks to take the complexity out of the ordering process so employees can focus on serving up fast, fresh-made, quality food and providing exceptional service.

Read the full story

Wendy's

"Wendy's introduced the first modern pick-up window in the industry more than 50 years ago, and we're thrilled to continue our work with Google Cloud to bring a new wave of innovation to the drive-thru experience."

Todd Penegor

President and CEO, The Wendy's Company

“Google Cloud’s generative AI technology creates a huge opportunity for us to deliver a truly differentiated, faster, and frictionless experience for our customers, and allows our employees to continue focusing on making great food and building relationships with fans that keep them coming back time and again.”

Todd Penegor

President and CEO, The Wendy’s Company

Financial services

Insight

79%

of financial services organizations consider virtual assistants to be valuable[6]

6. Google Cloud Gen AI Benchmarking Study, July 2023

Priority use cases

Financial document search and synthesis

Help analysts find and understand information that is buried deep in contracts and other unstructured documents.

Enhanced virtual assistants

Help customers get the answers they need with less human intervention.

Capital markets research

Use as a research assistant to sift through millions of source documents to identify and summarize key information.

Regulatory and compliance assistant

Help business and technical teams monitor regulatory changes that impact their business, and ensure that controls and compliance are consistently implemented (in software and business processes).

Personalized financial recommendations

Improve cross-sell and retention with 1:1 messaging. Tailor financial product recommendations with hyper-personalized and conversational language.

Real-world example

Deutsche Bank accelerates financial decision-making

Deutsche Bank is testing Google's generative AI and LLMs at scale to provide new insights to financial analysts, driving operational efficiencies and execution velocity. There is an opportunity to significantly reduce the time it takes to perform banking operations and financial analysts' tasks, empowering employees by increasing their productivity.

Watch the full video

> "Generative AI is transforming how we find, sort and analyze information at scale — helping us to support our client's global ambitions."

Bernd Leukert

Chief Technology,
Data and Innovation Officer,
Deutsche Bank

Deutsche Bank

Healthcare and life sciences

Insight

75%

of healthcare organizations consider digital patient concierges to be valuable[7]

Priority use cases

Digital patient concierge

Easily locate, summarize, and generate health plan responses. Clearly explain plans and benefits to members and potential members.

Public and private contextual search

Query and extract insights from public and private datasets, and summarize research into plain language.

Expedite Prior Authorization (PA)

Reduce clinicians' admin time on drafting PA letters for procedures, medication, or medical devices, and accelerate patient care.

Clinical trial report generation

Accelerate generation of clinical studies and reports, complete with safety/efficacy claims.

7. Google Cloud Gen AI Benchmarking Study, July 2023

Real-world example

US national medical center transforms healthcare with generative AI

One of the leading national medical centers and hospitals is transforming healthcare with generative AI. The organization started by using Vertex AI Search and Conversation to improve the efficiency of clinical workflows, helping clinicians and researchers to find the information they need, and ultimately improve patient outcomes.

Healthcare professionals often rely on information from various sources such as medical records, research papers, and clinical guidelines to aid them in diagnosing and treating patients.

However, this data is scattered across multiple formats and locations, making it challenging for clinicians to find the necessary information promptly.

Vertex AI Search and Conversation unifies data across dispersed documents, databases, and intranets, making it easier to search, analyze, and identify the most relevant results.

Learn more about how generative AI can improve healthcare patient service.

Media and entertainment

Insight

87%

of media and entertainment organizations consider media content discovery to be valuable[8]

8. Google Cloud Gen AI Benchmarking Study, July 2023

Priority use cases

Media content discovery

Help users discover new content with personalized, conversational search results based on previous behaviors.

Creative assistance

Make it easier for content creators to repurpose content in different formats, helping accelerate time to value and revenue.

Internal document and media search

Enable internal editing and operational teams to find the right content at the right time.

Branded consumer interactions

Use intellectual property on media assets to create unique and personalized audience experiences.

Content summarization and metadata

Seamlessly extract metadata from media to enable personalization, monetization, and insights, and easily summarize long-form content.

TIME

Real-world example

TIME wants to build community, not just creativity, with LLMs

With trusted sources and chat resources, TIME wants to do more than deliver headline news — playing a bigger role as a beacon for accuracy. As media companies explore the possibilities of generative AI, the publisher sees an opportunity to strengthen its role as a trusted source and community builder.

For years, it's been using AI-powered recommendations to build affinity and loyalty with readers. Now, with generative AI, TIME hopes to turn a one-way conversation into a dialogue.

"As publishers, what we've done for a hundred years, it's been a one-way street: we put out content for the consumer and they consume it. With generative AI prompts and chat, we actually become able to understand, and have an interaction with, the consumer — creating experiences that are two-way in many ways. That's why I actually see generative AI as a powerful tool for building community."

Burhan Hamid
Senior VP Data, Product, and Engineering, TIME

Read the full story

Canva

Real-world example

Canva is solving for AI-powered design, for everyone

Canva is using the latest AI technology to empower their customers and make the design process as frictionless as possible. From enabling users to translate their designs into over 100 languages with just a few clicks, to turning short videos into longer and more compelling clips with Google PaLM technology, they are unlocking the magic of AI with Google Cloud.

Watch the full video

"There is a quote that I love from the science fiction writer Arthur C. Clarke, 'Any sufficiently advanced technology is indistinguishable from magic.' Canva has always been about removing as much friction from the design process as possible and AI technology allows us to make the design process even easier with even less friction.

We are incredibly excited to be working with Google Cloud as we test and explore ways to bring even more magic to our community. Earlier this year we launched Magic Translate and what that enables you to do with just a couple of clicks turn any of your designs into over a hundred languages. Magic video is a time-saver for marketers and teachers who want to be able to cater to a diverse audience."

Melanie Perkins

Co-founder & CEO, Canva

Google Cloud

Manufacturing

Insight

80%

of manufacturing organizations consider machine generated events monitoring to be valuable[9]

Priority use cases

Machine-generated events monitoring

Interpret telemetry from equipment to reduce unplanned downtime, optimize operations, and maximize utilization.

Customer service automation

Provide an easy, informative, and value-added customer service experience that automates and accelerates time-to-resolution for common interactions.

Document search and synthesis

Retain generations of documents throughout the product lifecycle, and use them to generate new content as needed.

Product/content catalog discovery

Efficiently match requirements to the specifications of products purchased.

Supply chain advisor

Optimize fulfillment by recommending best-suited suppliers based on relevant criteria.

9. Google Cloud Gen AI Benchmarking Study, July 2023

Real-world example

Leading global airline supplier, GA Telesis, integrates generative AI technology

As a major supplier of essential equipment in the airline industry, where long-term relationships and trust are the bedrock of many business transactions, GA Telesis' sales staff receive inquiries from global customers requesting quotes for all sorts of commercial aircraft and jet engine replacement parts.

The typical inquiry is not standardized, requiring sales representatives to quickly decipher the relevant aircraft or jet engine model, applicable codes, quantity required, preferred condition and provenance, and often most importantly, where the part is needed and when. Additionally, in order for airlines to meet their on-time performance metrics, inquiries are often urgent and logistics have to be factored into the equation. GA Telesis' team is expected to accomplish what can resemble an impossible feat in minutes, not hours.

GA Telesis has selected Google Cloud's Vertex AI Search and Conversation platform, which is designed to help businesses tune and deploy machine learning models, to help it quickly build innovative AI applications.

Leveraging a new data extraction solution the GA Telesis technology team built internally, GA Telesis will be able to automatically synthesize purchase orders and quickly provide customers a quote, eliminating the need for sales teams to manually cross-reference emails with their inventory availability.

Read the full story

"In aerospace, GA Telesis will deploy Google Cloud's generative AI technology to revolutionize the sales and service processes for the parts the company supplies to major global passenger and cargo carriers."

Abdol Moabery

CEO, GA Telesis

Google Cloud

Communications service providers

Priority use cases

Customer or employee service automation

Make online customer service more conversational with human-like support and search.

Network planning and operations

Easily access and understand complex data on network performance, faults, inventory, infrastructure, and anomaly detection.

Advertising and creative content assistance

Generate interactive and relevant content with highly personalized messaging.

Employee knowledge search

Make it easier and more effective for staff to get things done, with human-like bots providing IT support, self-service, and T2/T3 guidance to field techs.

Test or code script generation

Generate and test experiments using real work experiences.

Contract analysis and negotiation

Automate contract negotiations with suppliers by analyzing bills, trends, and other supply data.

Conclusion

Innovate faster with generative AI for business

When a new technology moves as fast as generative AI does, it can be hard to keep up.

As a strategic partner to our customers, Google Cloud helps leaders chart their path forward with the appropriate frameworks, tools, and governance structures — and ingrain a responsible, consciously cautious approach to AI across your organization.

Google is an AI-first company. Having already built some of the industry's leading AI capabilities, we continue to focus on making it easy and scalable for everyone to innovate with AI.

We support the needs of generative AI in your organization in a number of ways.

We have the most comprehensive platform now available and ready-to-go with strong support from leading organizations — helping you create amazing content, synthesize and organize information, automate processes, and build engaging customer experiences.

Your data is your data. We do not use our customers' data to train Google's models. The question we hear most is, "Do I have control of my data, brand, IP risk, and ability to meet regulatory requirements? The answer is "Yes".

Everyone can be an AI developer. All users with varying levels of expertise can create innovative enterprise search, chat, and vision apps. We enable both business and technology practitioners to be more productive using AI assistants.

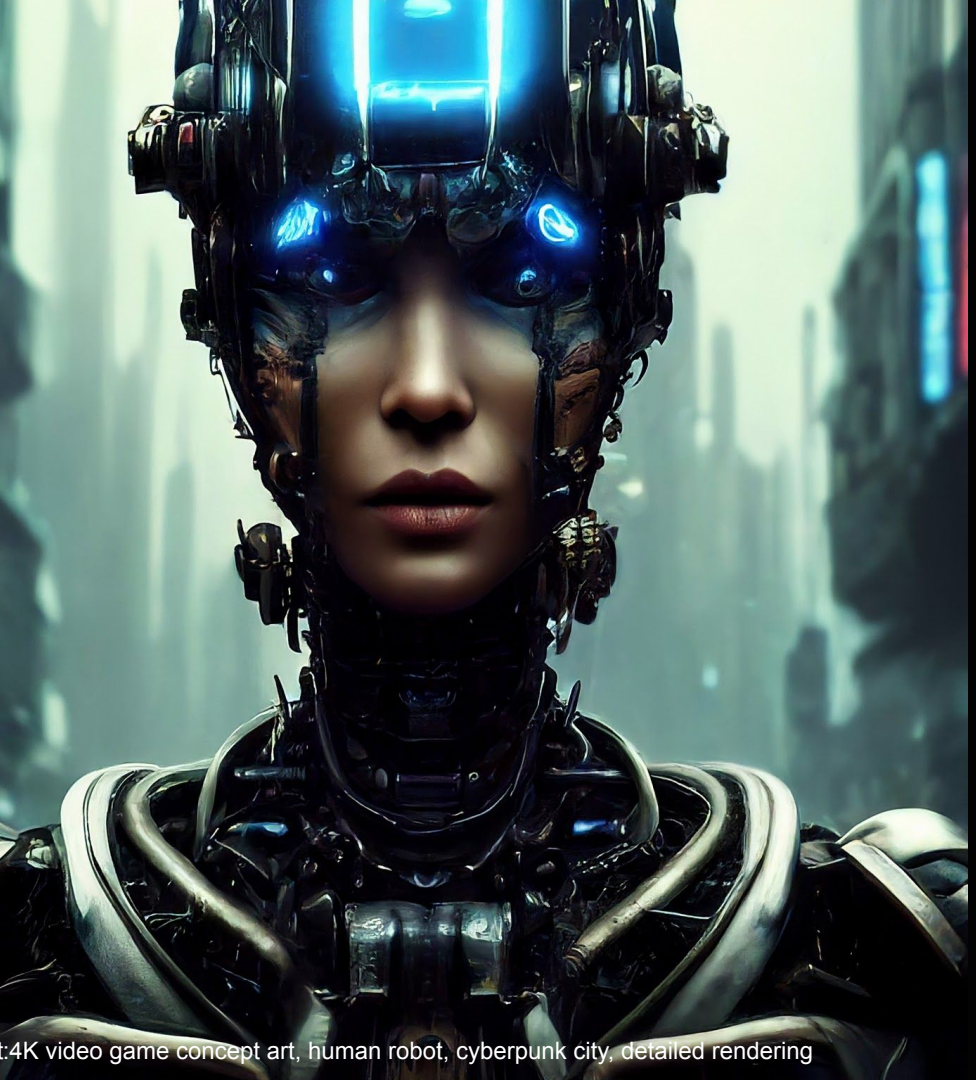
We deliver infrastructure that is optimized for AI workloads by giving you access to the latest GPUs and TPUs, a rich choice of deep learning VMs, and the ability to easily build custom AI software.

The Google Cloud AI portfolio supports all stages of your generative AI journey. With a rapidly growing suite of generative AI technologies being made available — along with new educational and consulting programs, blueprints for specific industry use cases, and our growing partner ecosystem — we are ready to get you and your teams learning, building with, and deploying generative AI.

We're building a capability that allows you to get on the bus for generative AI and go where it's going. Start building out your own enterprise skill sets and capabilities, such that when you find the right use cases, and the right value levers — you have the capability to do that."

Carrie Tharp

VP Strategic Industries, Google Cloud



ANEXO II

GenAI
Links úteis

Videos - Generative AI for Developers

Introduction to Machine Learning on Vertex AI

Prototyping language apps with Generative AI Studio

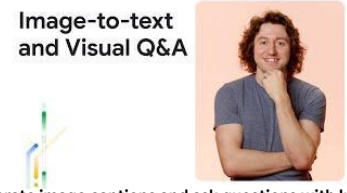
How to tune LLMs in Generative AI Studio

Introduction to foundation models

Vertex AI Search

Generate and edit images with Generative AI Studio

Introduction to Vertex AI Model Garden



Generate image captions and ask questions with Imagen on Vertex AI

Build AI-powered apps on Vertex AI with LangChain

Introduction to Colab Enterprise on Vertex AI

Videos - Cloud AI & ML @ Google I/O 2023

Harnessing the power of generative AI to deliver next-gen search experiences

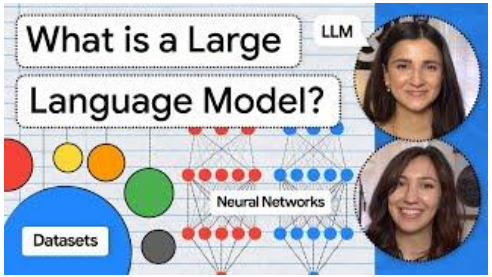
How to build better conversational experiences with generative AI

How to scale Large Language Models on Google Cloud

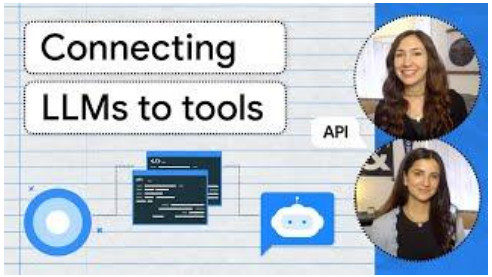
10 ways to use machine learning with Google Cloud, in 15 minutes

Videos - Generative AI Foundations

Transformers, explained: Understand the model behind GPT, BERT, and T5



What are Large Language Models (LLMs)?



Connecting LLMs to Tools

Generative AI Learning Path

Model Gardener - A Generative AI Tale

Links

GenAI on Google Cloud

Introduction to Generative AI

Attention mechanism: Overview

Build search and conversation applications in minutes

Introduction to Generative AI Studio

Introduction to Vertex AI Model Garden

Introduction to Responsible AI

Duet AI in Google Cloud - data analysis and visualization

Duet AI in Google Cloud - code assistance in BigQuery

Build AI-powered apps on Vertex AI with LangChain

Generate image captions and ask questions with Imagen on Vertex AI

https://github.com/GoogleCloudPlatform/generative-ai

https://github.com/GoogleCloudPlatform/genai-for-marketing

https://cloud.google.com/vertex-ai/docs/samples

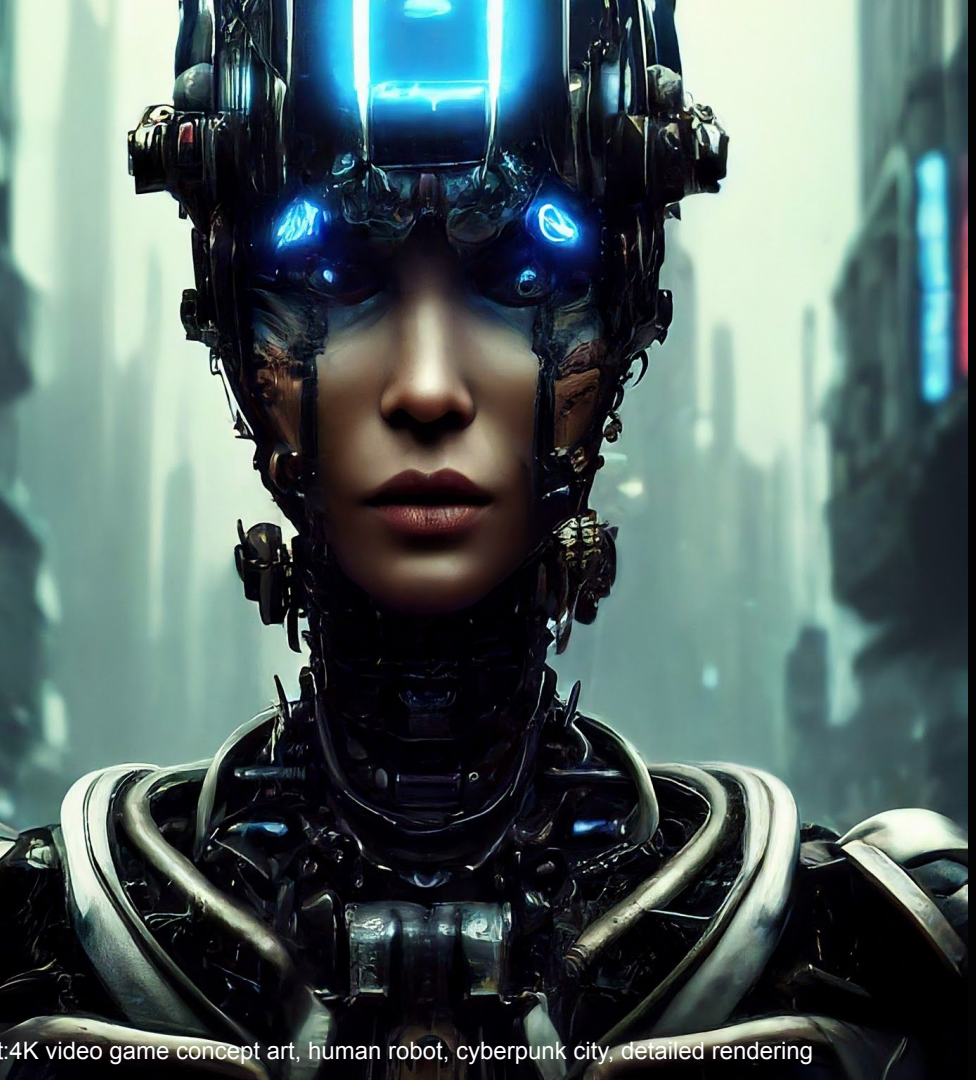
https://cloud.google.com/vertex-ai/docs/generative-ai/learn-resources

Links

https://pair.withgoogle.com/guidebook/
https://www.tensorflow.org/responsible_ai?hl=pt-br
https://blog.google/technology/ai/google-responsible-generative-ai-best-practices/
https://ai.google/responsibility/principles/

https://www.cloudskillsboost.google/catalog?keywords=generative+ai&locale=&solution%5B%5D=any&role%5B%5D=any&skill-badge%5B%5D=any&format%5B%5D=any&level%5B%5D=any&duration%5B%5D=any&language%5B%5D=any

https://cloud.google.com/blog/topics/training-certifications/12-days-of-no-cost-generative-ai-training?linkId=9379612



ANEXO III

Gamification

SAPS

FLOW

Triggers

Motivações

SAPS

Intrínsicas

- Pertencimento
- Autonomia
- Poder
- Domínio
- Significado
- Aprendendo
- Autoconhecimento
- Amar
- Diversão
- ....

Extrínsicas

- Pontos
- Níveis
- Distintivos (Badges)
- Missões
- Quadros de líderes (leaderboard)
- Prêmios
- Dinheiro
- Estrelas douradas
- Barras de progresso
- ...

Motivações

SAPS

S.A.P.S.

Coisa

tatus

cesso

oder

dopamine

dopa.mn

Gabe Zichermann

https://www.gamification.co/2010/10/18/cash-is-for-saps/

SAPS model applied in Service Industry

SAPS

- Status = Starbucks “membership card”
  (Depends on visiting frequency, different card)

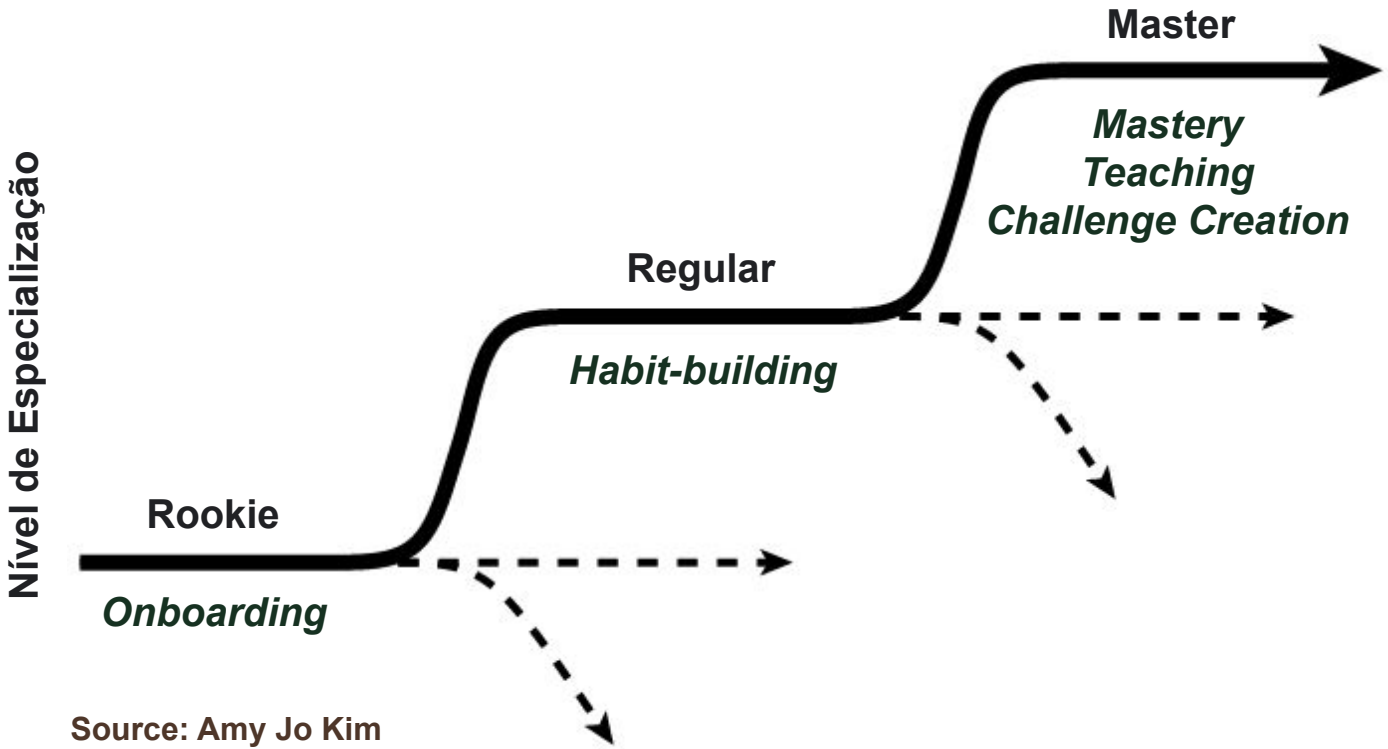
- Access = Short line in Ski slope.
  (VIP Season members can go to ‘short line’ and don’t have to wait that long)

- Power = Best drivers’ traffic order service
  Ex) They work with no profit but the pride

- Stuff = At Café.
  Free coffee when visiting on Birthday
  (Low cost - > High feeling of reward)

Sobre o famoso “FLOW”: subir de nível

FLOW



Source: Amy Jo Kim

Sobre o famoso “FLOW”: manter o balanço

FLOW

http://ui-patterns.com/blog/making-the-fogg-behavior-model-actionable

Triggers

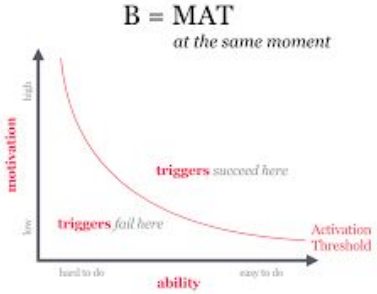
O que dispara a mudança de comportamento ?

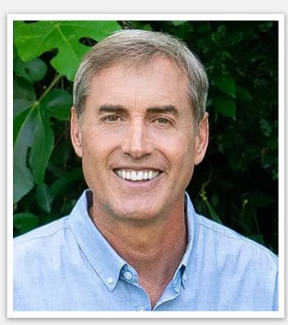
B = MAP

Behavior = Motivation x Ability x Prompt

Must converge at the same time

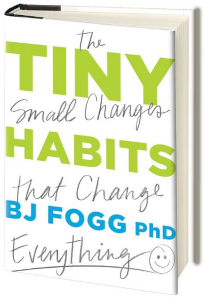
Motivation	Ability	Prompt
Hopes and fears Pleasures or pain Social acceptance or rejection	Simplification through time, money, effort, brain cycles, social deviance, and routine	Facilitator Spark Signal

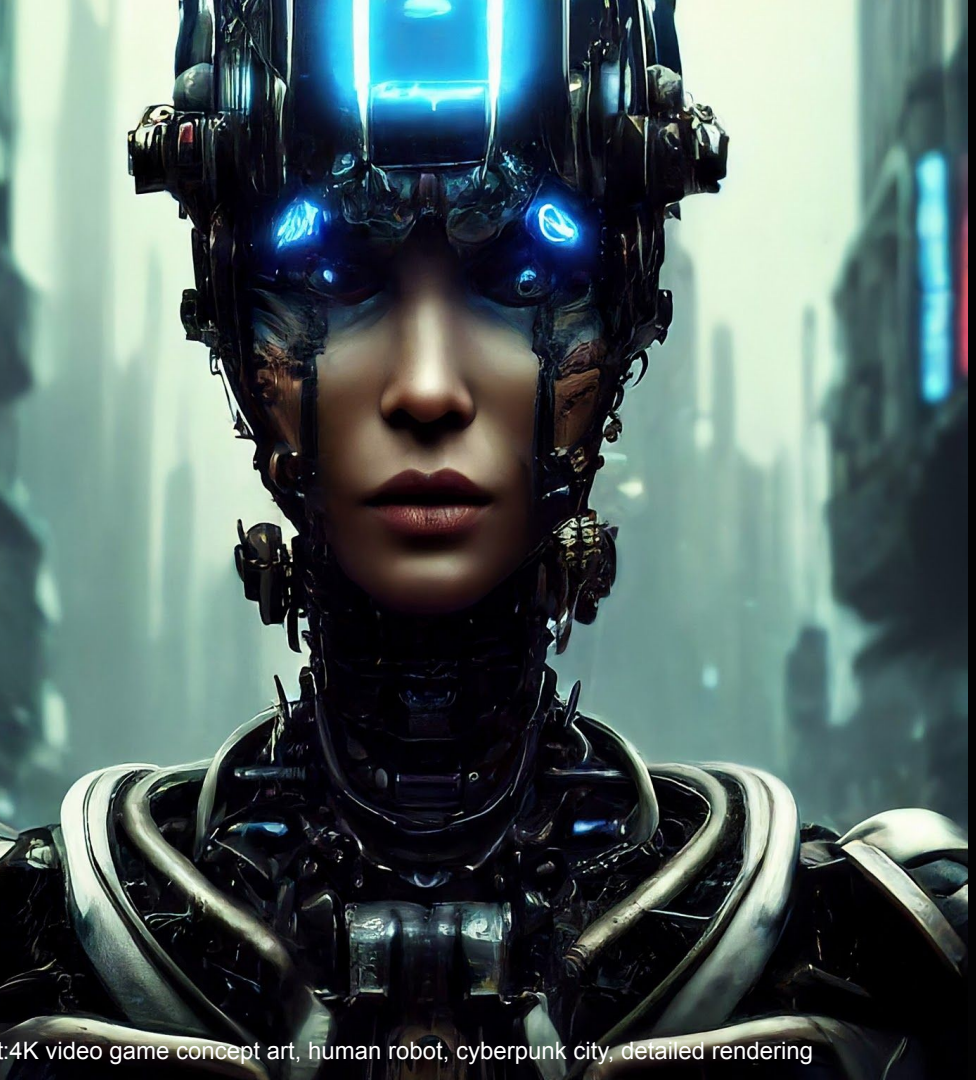




https://www.behaviormodel.org

Dr. BJ Fogg founded the Behavior Design Lab at Stanford University,





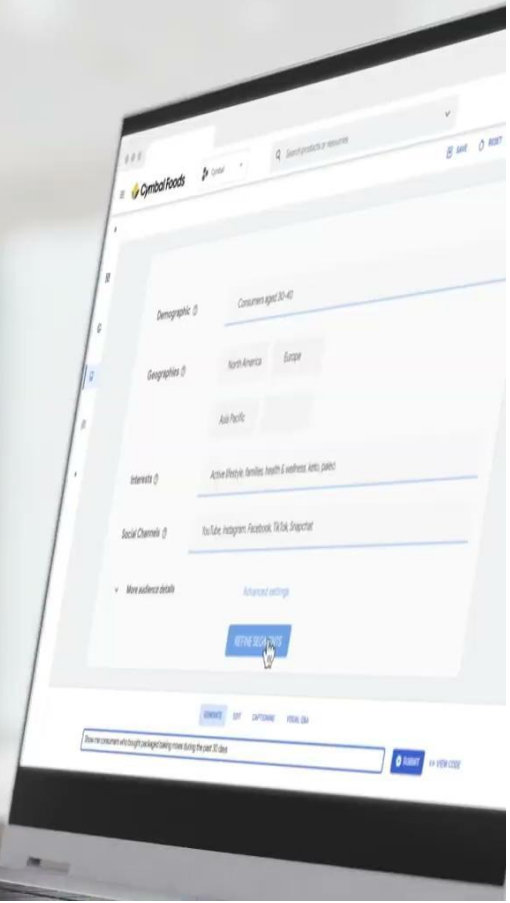
ANEXO IV

GenAI Revolution

GenAI for Marketing flow

Google Cloud

Transform marketing with Generative AI



Google Cloud

Jornada de campanha de marketing

Alice

Analista de Marketing

Início

Insights de marketing

Insights de audiências

Trend spotting

Insights sobre o consumidor

Analíticos & Insights

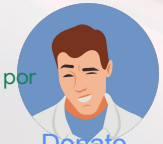
Conteúdo para website

Campanhas por email

Social media copy

Grupos e ativos para Google Ads PMax

Revisar todos os criativos da base



Donato

Criador de conteúdo

Geração de conteúdo

Revisão de conteúdo

Ative o conteúdo gerado em canais de marketing

Geração de resumo criativo e envio por e-mail para uma agência

Desempenho e otimização da campanha com bot auxiliar de anúncios

Yumi

Gerente de campanha

Ativação de campanha e otimização

Powered by

Looker

BigQuery

Vertex AI Foundation Models

Vertex AI Search & Conversation

Vertex AI Foundation Models

Looker

Vertex AI Search & Conversation

Google Workspace

Google Cloud

Alice

Analista de Marketing

Insights de marketing → Insights de audiências → Trend spotting → Insights sobre o consumidor

Overview

33m ago

Campaign ID	Campaign Name	Date
is any value	is DISPLAY Campaign (message) or DISPLA...	is from 2020/11/01 until 2021/02/28

Overview

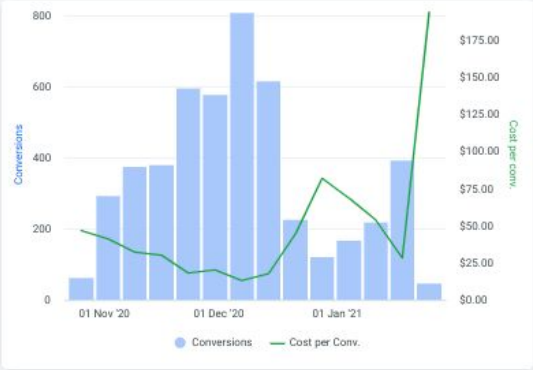
PERFORMANCE
- Campaign Performance
- Compare Campaigns
- Store Performance
- Web Traffic
- Product Performance

PREDICTIONS
- Propensity to Purchase Predictions
- Customer Lifetime Value
- Demand Forecasting
- Sentiment Analysis-Reviews

MISC.

Campaign Performance

4.9 K Conversions — 98% of 5.0 K Target	**$30.03** Cost per conv. — 95% of $32 Target
147.3 K Cost(in $) — 101% of $146.1 K Target	**255.7 K** Clicks — 100% of 255.6 K Target



Campaign Comparison

Campaign Name	Conversions	Cost/Conv	CTR
DISPLAY Campaign (votes)	853	$15.34	0.01
DISPLAY Campaign (message)	843	$6.97	0.01
SEARCH Campaign (poor)	820	$21.15	0.03
SEARCH Campaign (proceed)	802	$33.36	0.03

Powered by Looker

Alice

Analista de Marketing

Insights de marketing

Insights de audiências

Trend spotting

Insights sobre o consumidor

LookML Dashboards

Cohort Analysis Overview

Cohorts: is any value

Created Month: is in the last 2 complete months

Cohort Analysis | Cluster Analysis | Training Evaluation

4,599	$510,792.44	$3,099.88	$46.74
New Users	Total Sales	Total Dollars Returned	Avg Unit Price
▲ 8.4% vs Last Month	▲ 6.6% vs Last Month	▲ 17.9% vs Last Month	▲ 0.2% vs Last Month

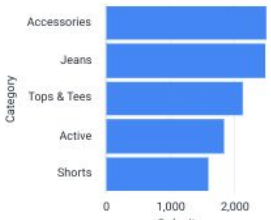
Top 5 Brands 🔥

Levi's

Columbia

Spend by Region

Top 5 Categories



New Arrivals

	Centroid Label	Item Name
1	Active Lifestyle Shoppers	Dockers Men's Easy D3 Classic Fit ...
2	Tops & Tees Activist	Fruit of the Loom Men's Basic Brief ...
3	Outdoor Adventurer	Hanes Classics Men's 6-pack Cushi...
4	Active Lifestyle Shoppers	True Religion Women's Joey Snake ...
5	Active Lifestyle Shoppers	Hurley Men's Hurley Puerto Rico Pla...
6	Active Lifestyle Shoppers	Dockers Men's Signature Khaki D3 ...
7	Active Lifestyle Shoppers	Port Authority Interlock Mock Turtle...
8	Tops & Tees Activist	Kenneth Cole Women's Blurred Sleeve...
9	Outdoor Adventurer	adidas Women's Tiro 11 Training Pa...
10	Active Lifestyle Shoppers	Volcom Men's Frickin Modern Chino...

Google Cloud

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Analista de Marketing

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Insights de audiências

Trend spotting

Insights sobre o consumidor

Google Cloud

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Insights de marketing

Insights de audiências

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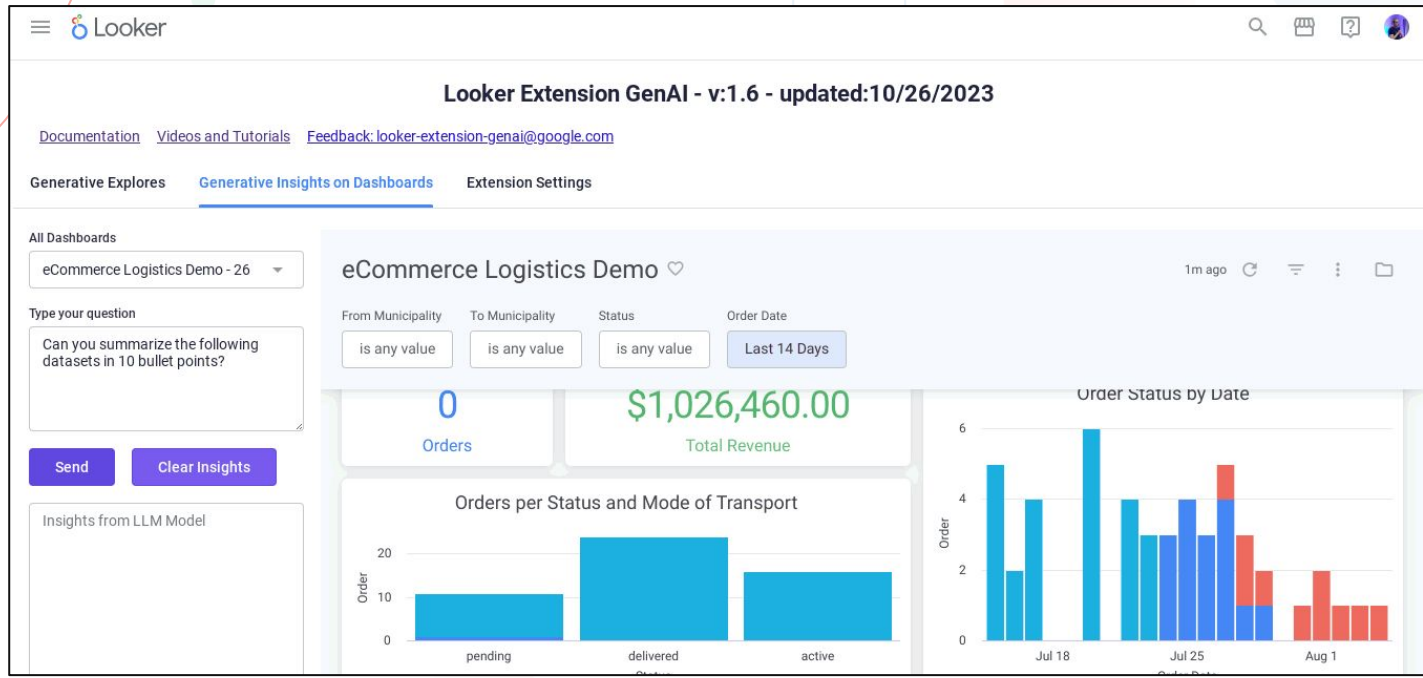

Google Cloud

Alice

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Insights de audiências

Trend spotting

Insights sobre o consumidor

News Summarization

Provide keywords to retrive summaries of news articles related to them.

Summarize News

Maximum number of news articles to return

10 – +

Tone

- positive
- negative

Keyword 1

fashion

Keyword 2

shoes

Keyword 3

New york

Summarize News

Alice

Analista de Marketing

Insights de marketing

Insights de audiências

Trend spotting

Insights sobre o consumidor

Video Summary:

- LeFou is a men's shoe store in New York City that specializes in high-quality, traditional shoes.
  - The store carries shoes from a variety of brands, including Alden, Edward Green, and Corthay.
  - LeFou also sells pre-owned shoes.
  - The store's best-selling items are the Alden Indy boots, the Edward Green cap toe oxfords, and loafers.
  - LeFou's logo is Latin for "we never boast."
  - The store's owner, Steven, believes that it is important to look stylish, but not over the top.
  - LeFou carries a variety of classic shoes that will not go out of style.

Alice

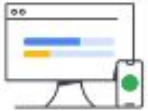
Analista de Marketing

Insights de marketing

Insights de audiências

Trend spotting

Insights sobre o consumidor



Consumer Insights

This page demonstrates how to use Vertex AI Search to find marketing assets.

Search for assets using Vertex AI Search

Query

Search

Google Cloud

Alice

Analista de Marketing

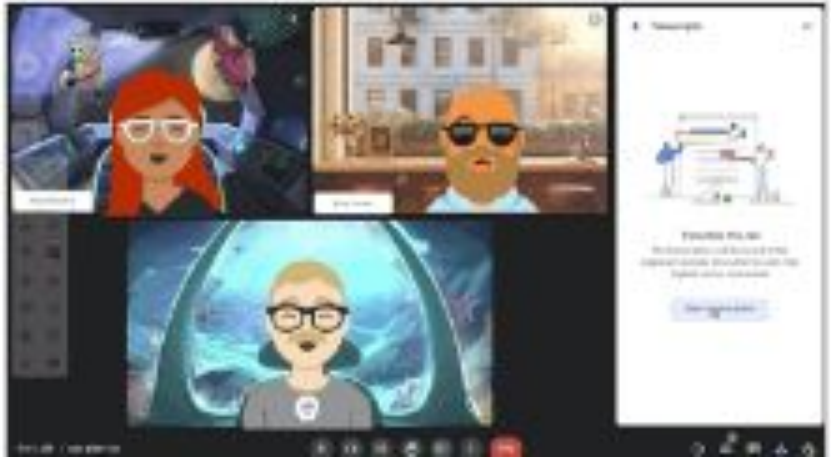
Insights de marketing

Insights de audiências

Trend spotting

Insights sobre o consumidor

Meet com agência e time de SAC



Google Cloud

Revisar todos os criativos da base

Grupos e ativos para Google Ads PMax

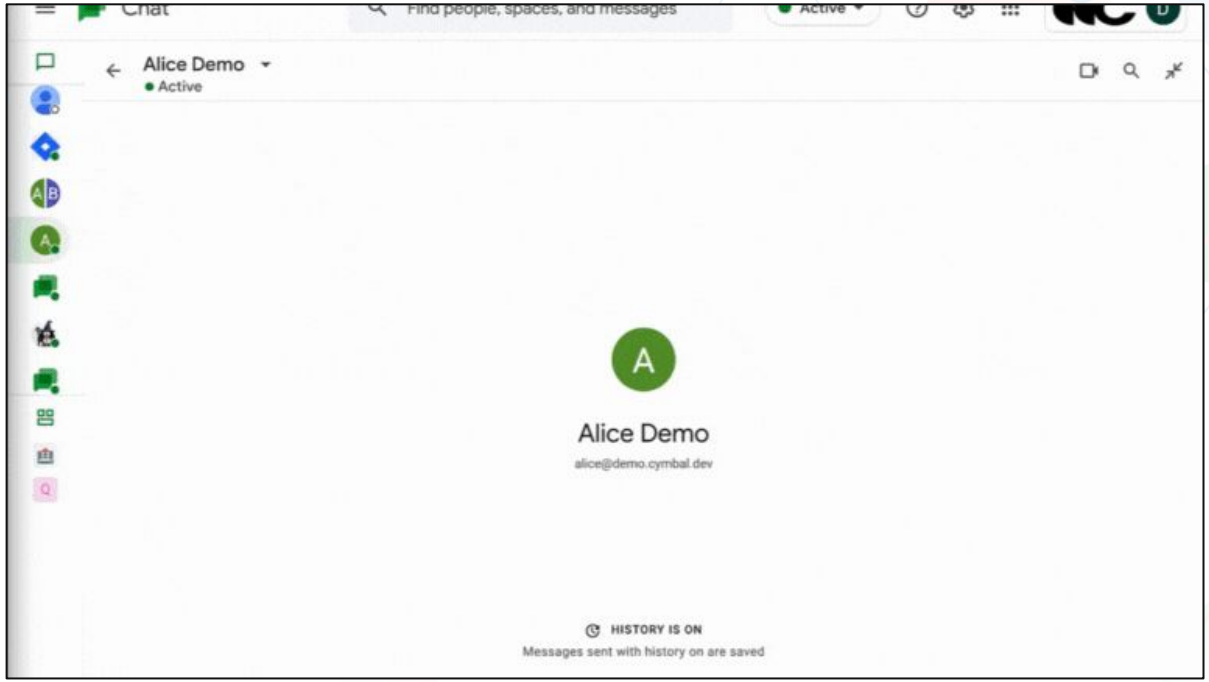
Social media copy

Conteúdo para website

Campanhas por email

Rever analises

Donato



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Social media copy

Conteúdo para website

Campanhas por email

Rever analises

Donato

Criador de conteúdo

To: Thomas <user36410@sample_user36410.sample>

English Translated

Subject: New Women's Handbags at Cymbal

Hi Thomas,

We're excited to announce that we have a new collection of women's handbags in stock at Cymbal! Our latest arrivals include a variety of styles, colors, and sizes, so you're sure to find the perfect bag for your needs.

Whether you're looking for a stylish everyday bag or a more formal option for special occasions, we have something for everyone. And with our wide range of prices, you're sure to find a bag that fits your budget.

So come on by Cymbal today and check out our new collection of women's handbags! We're open from 10am to 6pm, Monday through Saturday.

We hope to see you soon!

Sincerely,

The Cymbal Team

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Rever analises

Donato

Criador de conteúdo

Generate

Generated text

Introducing Our New Line of Men's Leather Shoes

We're excited to announce the launch of our new line of men's leather shoes! These shoes are made with high-quality materials and construction, and they're sure to become your new favorites.

Our new line of men's leather shoes includes a variety of styles, from classic dress shoes to casual sneakers. No matter what your needs are, we have a pair of shoes that's perfect for you.

Here are just a few of the features that make our men's leather shoes so special:

- **High-quality materials:** Our shoes are made with full-grain leather, which is the strongest and mos durable type of leather. This means that your shoes will last for years to come.
- **Expert craftsmanship:** Our shoes are handcrafted by skilled artisans who take pride in their work. This attention to detail ensures that each pair of shoes is made to perfection.
- **Comfortable design:** Our shoes are designed to be comfortable all day long. They feature cushione insoles and arch support, so you can wear them all day without any discomfort.
- **Stylish looks:** Our shoes are available in a variety of stylish looks, so you can find the perfect pair to match your personality and wardrobe.

We're confident that you'll love our new line of men's leather shoes. Order your pair today and see for yourself!

Shop now

Select

Select

Select

Select

Google Cloud

Revisar todos os criativos da base

Grupos e ativos para Google Ads PMax

Conteúdo para website

Social media copy

Campanhas por email

Rever analises

Donato

Criador de conteúdo

introducing a new line of men's leather shoes

Submit

Generated Post

Introducing the new line of men's leather shoes from [brand name]!

These shoes are made with the finest leather and craftsmanship, and they're sure to turn heads wherev you go. With a variety of styles to choose from, you're sure to find the perfect pair of shoes to match your personality and lifestyle.

Our new line of men's leather shoes are perfect for:

- **Work:** These shoes are stylish and professional, so you can look your best at the office.
- **Play:** These shoes are comfortable and durable, so you can wear them all day long.
- **Travel:** These shoes are lightweight and easy to pack, so you can take them with you wherever you g

Order your pair of new men's leather shoes from [brand name] today!

[Image of a man wearing a pair of stylish leather shoes]

[Call to action: Shop now]

[Link to product page]

[Social media handles]

[Hashtags]

Google Cloud

Revisar todos os criativos da base

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Social media copy

Conteúdo para website

Campanhas por email

Rever analises

Donato
Criador de conteúdo

Asset Group for PMax

Business name: Cymbal

Scenario: introducing a new line of men's leather shoes

Headlines

1. "Cymbal: The Perfect Harmony of Style and Comfort"
2. "Cymbal: Elevate Your Step with Timeless Elegance"
3. "Cymbal: Where Quality Meets Trendsetting Design"
4. "Cymbal: The Symphony of Style Awaits You"
5. "Cymbal: Step into the Spotlight with Our New Leather Shoes"

Long Headlines

1. "Cymbal's Symphony of Style: Introducing the New Men's Leather Shoes Collection."
2. "Elevate Your Every Step: Cymbal Unveils Its Exquisite Men's Leather Shoes."
3. "The Perfect Harmony of Quality and Style: Cymbal's New Men's Leather Shoes."
4. "Step into Timeless Elegance: Discover Cymbal's Latest Men's Leather Shoes."
5. "Cymbal's Men's Leather Shoes: Where Comfort Meets Sophistication."

Description

Introducing Cymbal's latest collection of men's shoes, where style meets comfort perfect harmony. Crafted from premium leather, each pair promises a symphony o elegance and durability. Step into a world of timeless sophistication and elevate your every move with Cymbal.

Call to action

Subscribe

Generated images

Google Cloud

Revisar todos os criativos da base

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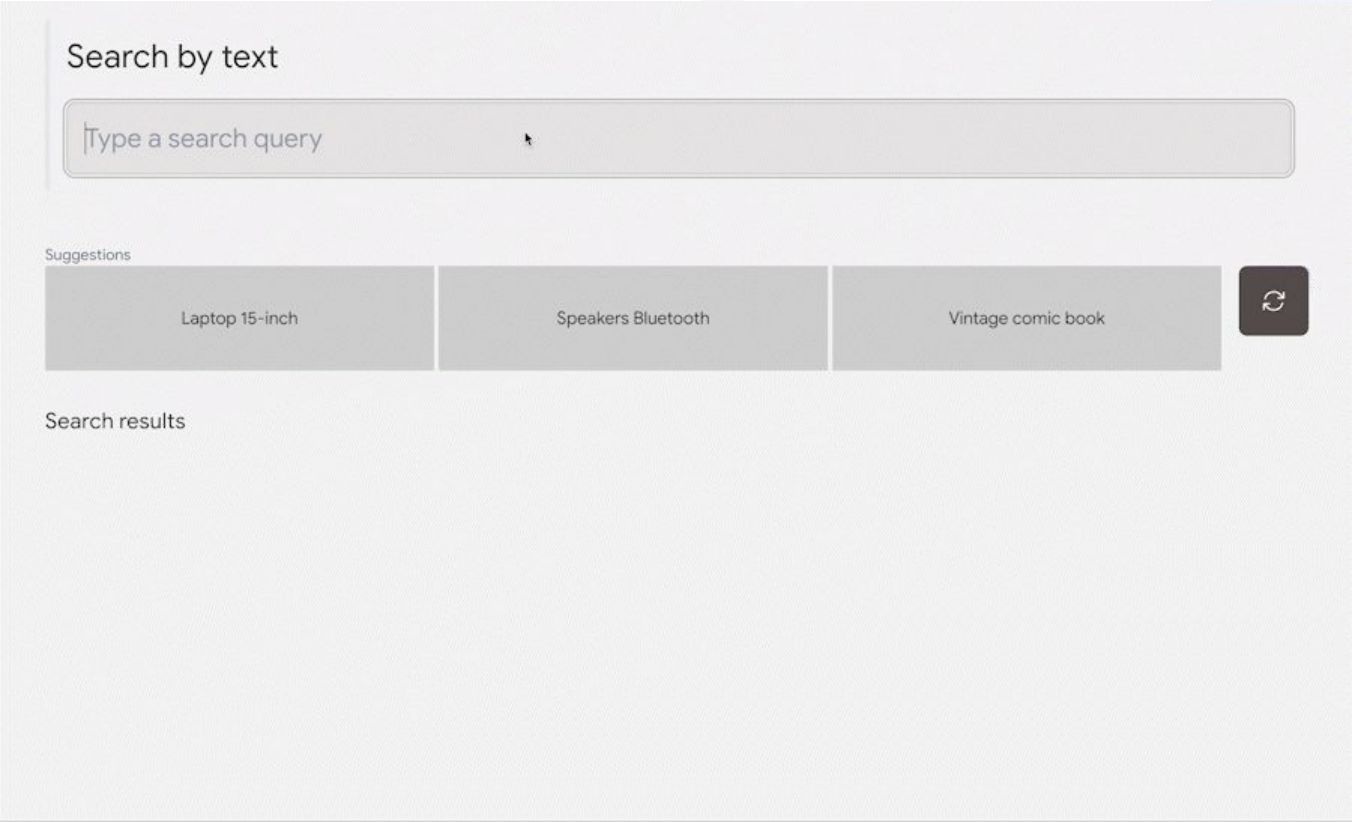
Conteúdo para website

Campanhas por email

Rever analises

Donato

Criador de conteúdo



Google Cloud

Cymbal Superstore

search product

Category

Clothing

Accesories

Filter

Price

Sale Only

New Arrivals Only

Size

Brand

Color

Fabric/Material

Occasion

Activity

Delivery

Men's Blue Oxford Shirt 100% cotton

$29.00

Add to Cart

Google Cloud

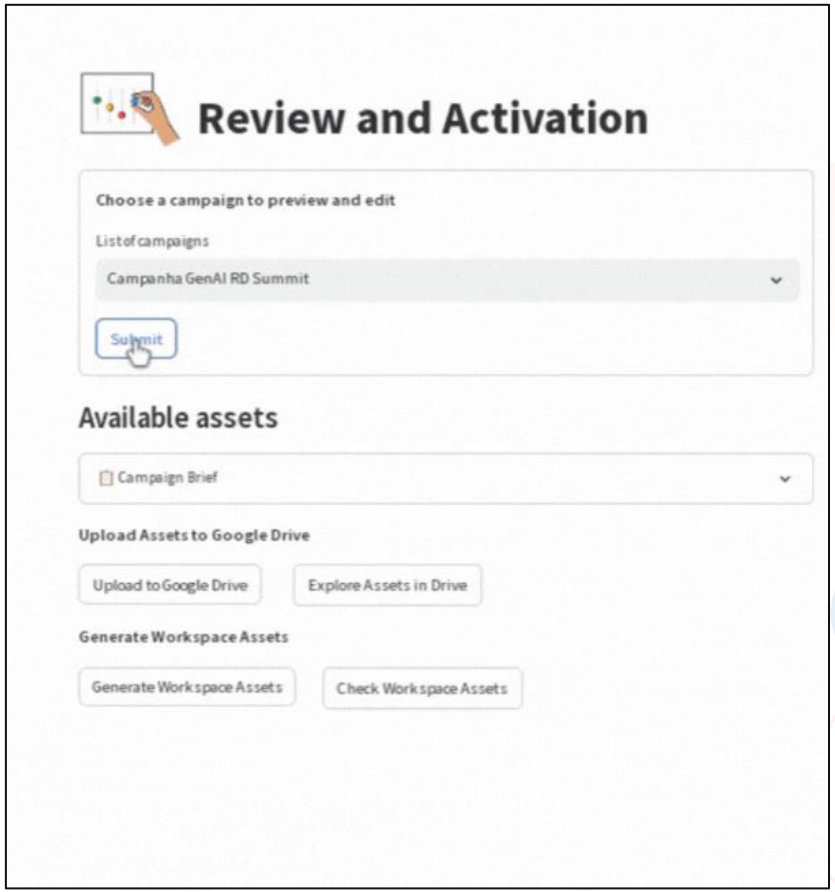
Revisão de conteúdo

Ative o conteúdo gerado em canais de marketing

Geração de resumo criativo e envio por e-mail para uma agência

Desempenho e otimização da campanha com bot auxiliar de anúncios

Yumi
Gerente de campanha



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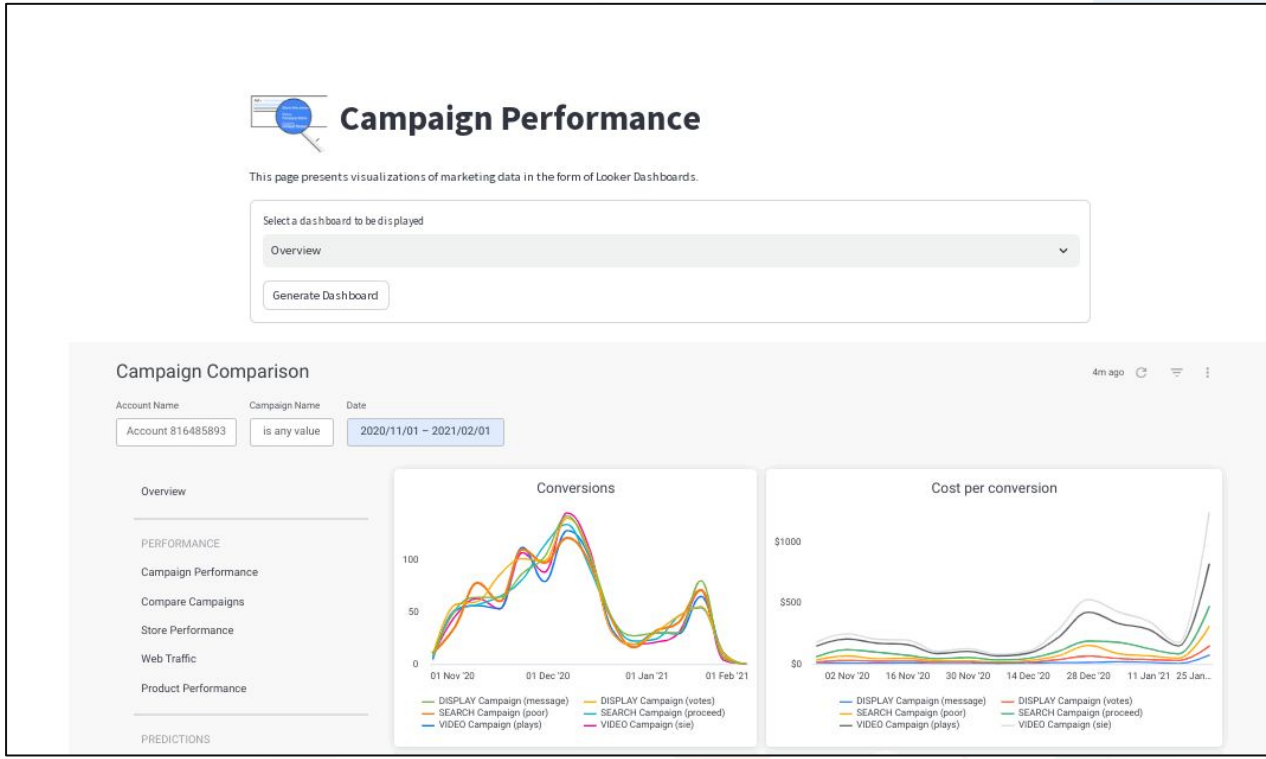
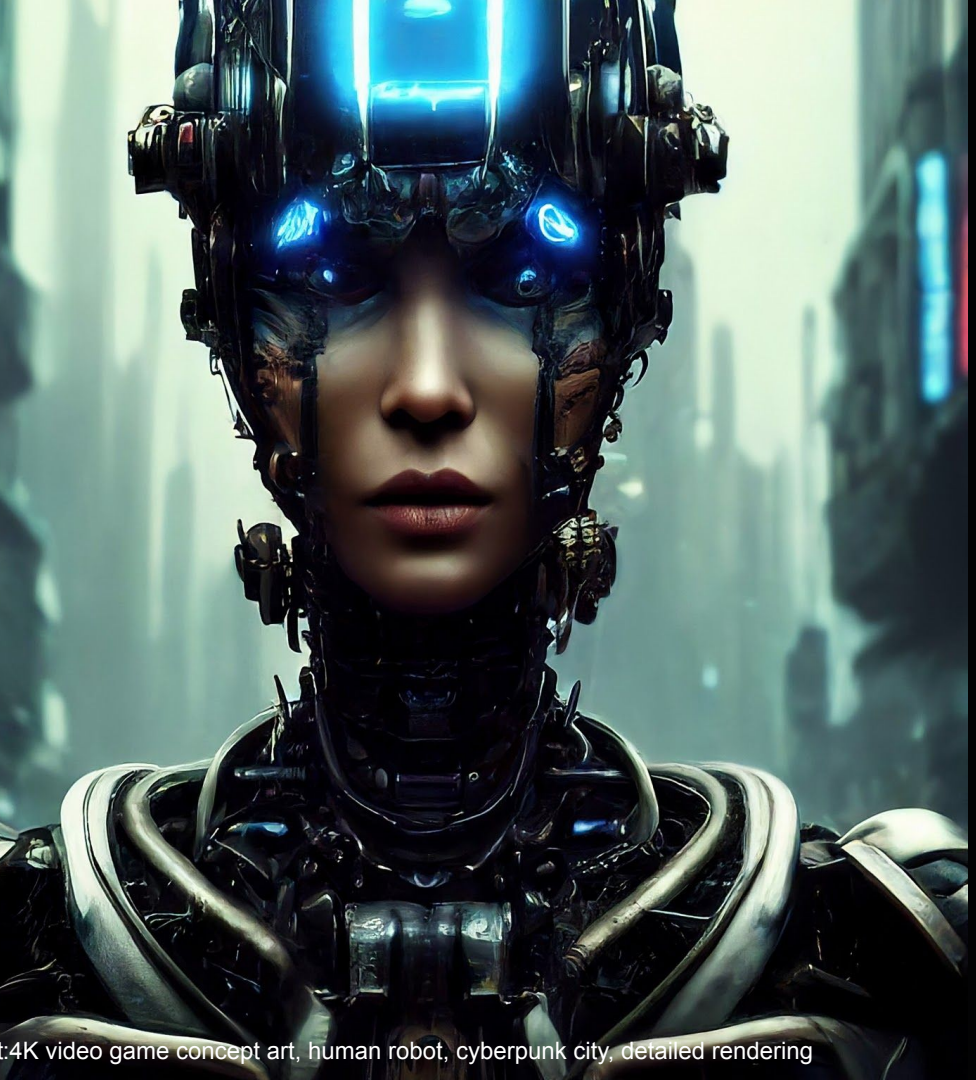


Google Cloud



ANEXO V

GenAI Revolution

Outros casos de uso

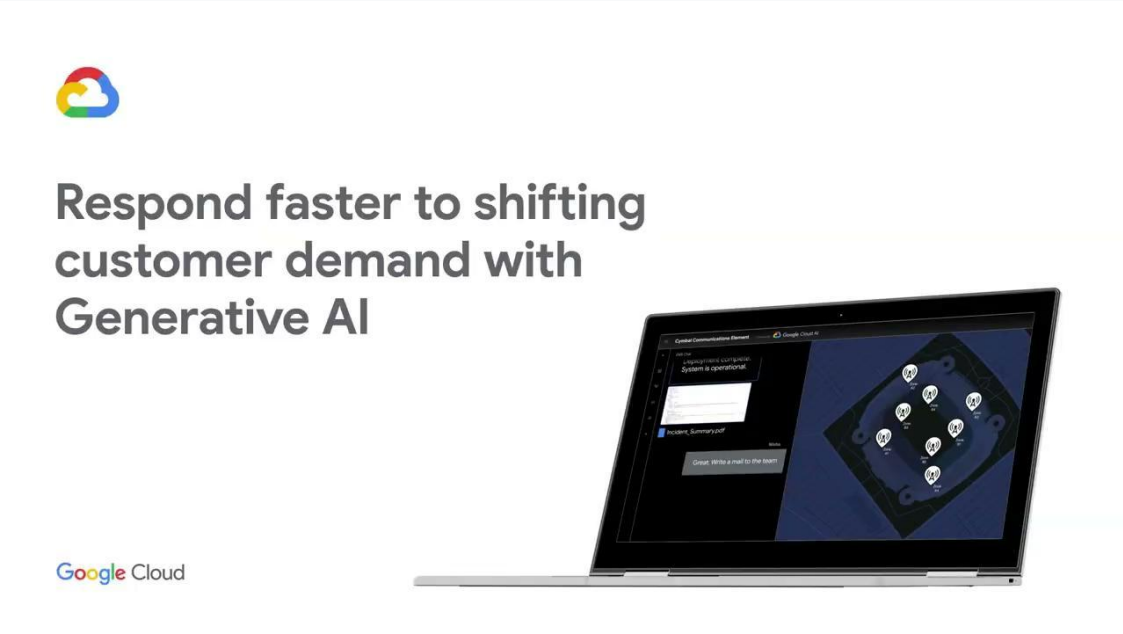
Google Cloud

Proprietary + Confidential

#1 - Respond faster to shifting customer demand

Telecommunications & DevOps

Generative AI enables faster paths to finding solutions with automated data collection. Documentation processes are automated and AI locates and delivers precisely the right resources, right when they're needed.

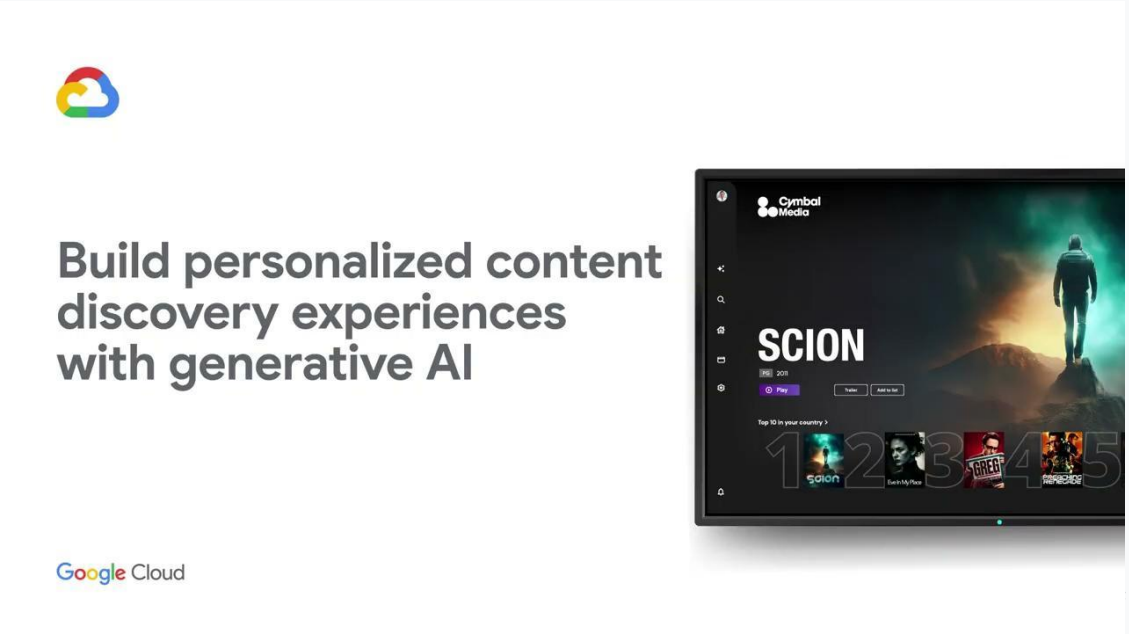


Proprietary + Confidential

#2 - Build personalized content discovery experiences

Media & Entertainment

Generative AI makes it easier for viewers to easily discover the perfect thing to watch in an ocean of content

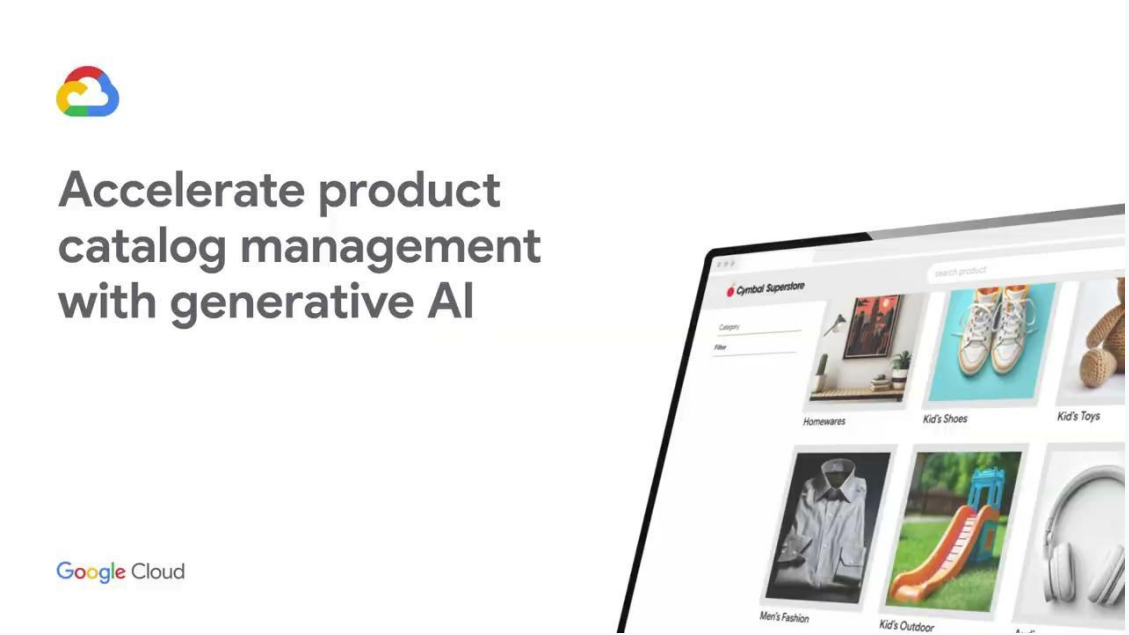


Proprietary + Confidential

#3 - Accelerate product catalog management

Retail

With generative AI from Google Cloud, marketing teams can build studio-grade imagery from simple text prompts, accelerate categorization and generate great customer-centric marketing copy.

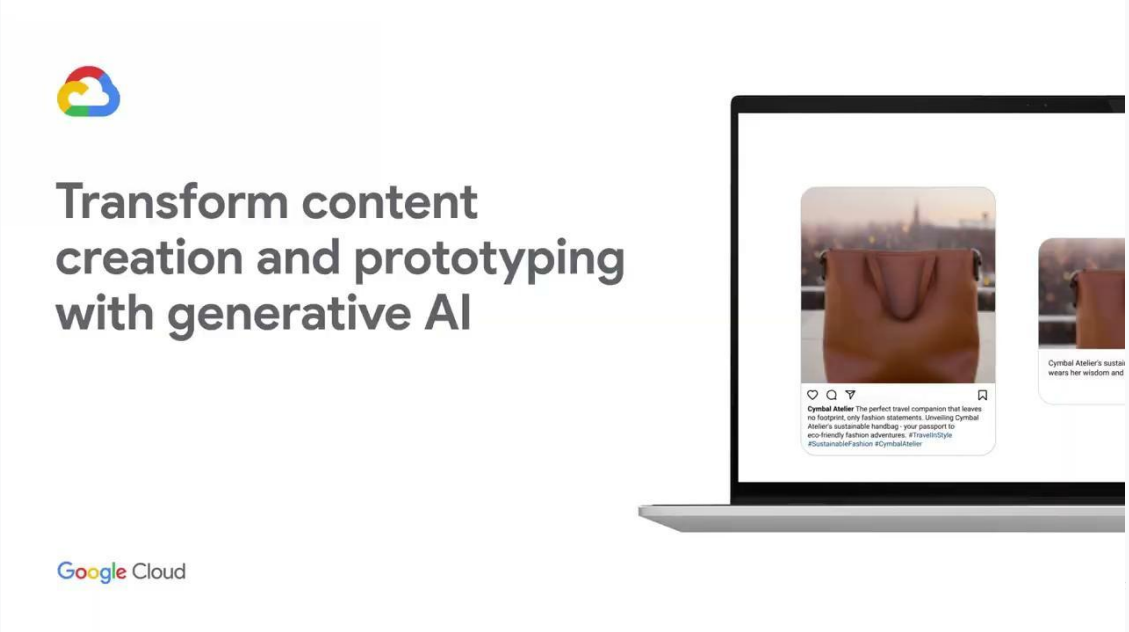


Proprietary + Confidential

#4 - Transform content creation and prototyping

Marketing

Google Cloud's generative AI technology can speed, scale, and simplify the creation of personalized, highly targeted marketing campaigns.

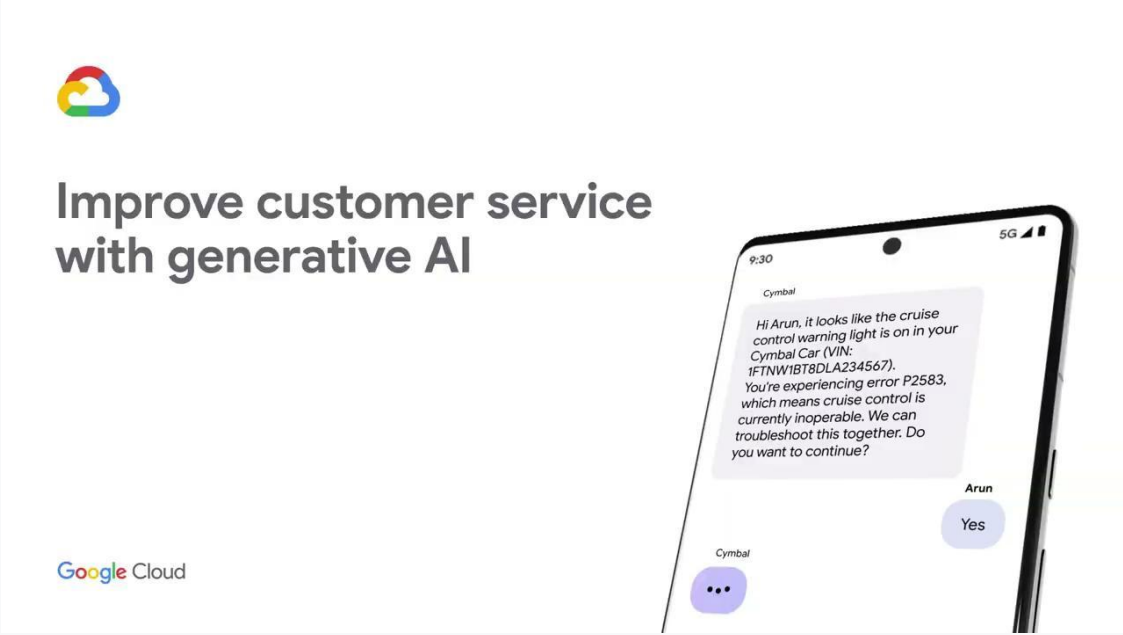


Proprietary + Confidential

#5 - Improve customer service with Generative AI

Automotive

Generative AI gives automakers the tools give drivers exactly the the help they need, exactly when they need it, and exactly how they want it.

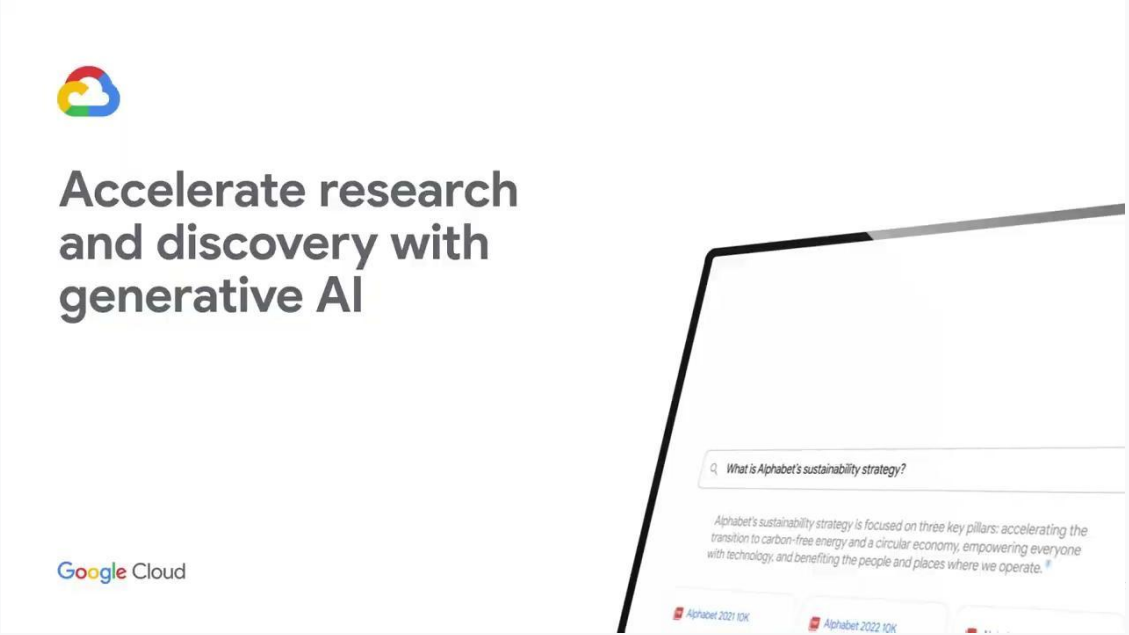


Proprietary + Confidential

#6 - Accelerating research and information discovery

Financial Services

With the power of AI, financial service firms can radically scale their insight and research–increasing the speed and quality of their decision making.



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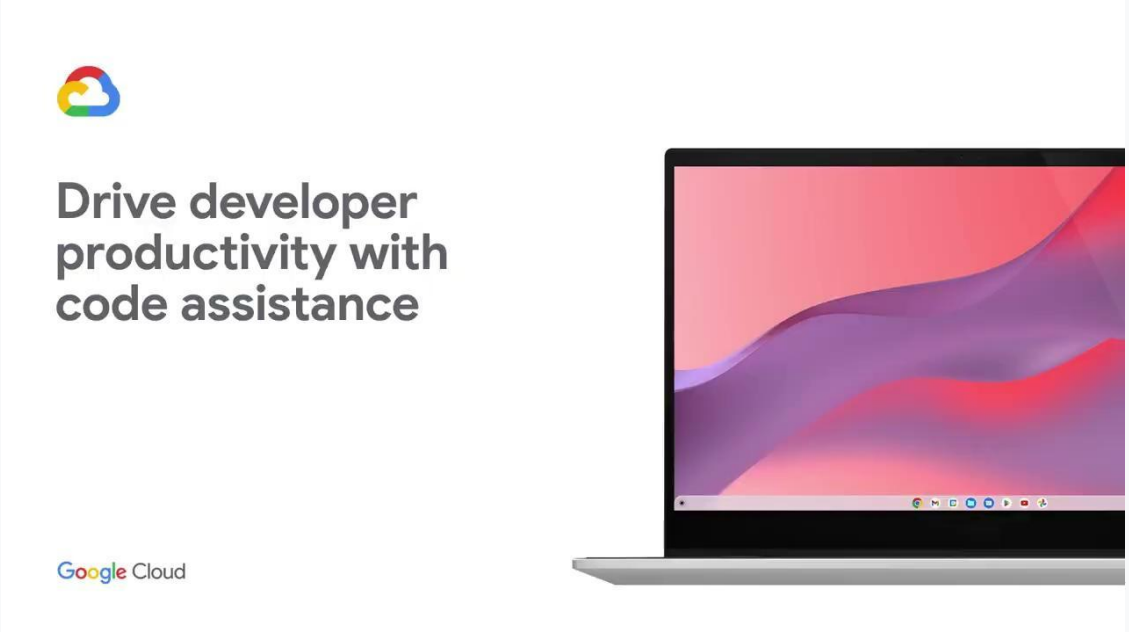
#7 - Drive developer productivity

DevOps

Using Duet and Codey AI, developers find answers quickly and navigate unfamiliar territory, allowing them to create better customer experiences - and possibly new revenue opportunities.



Proprietary + Confidential

#8 - Improve responsive patient service

Healthcare

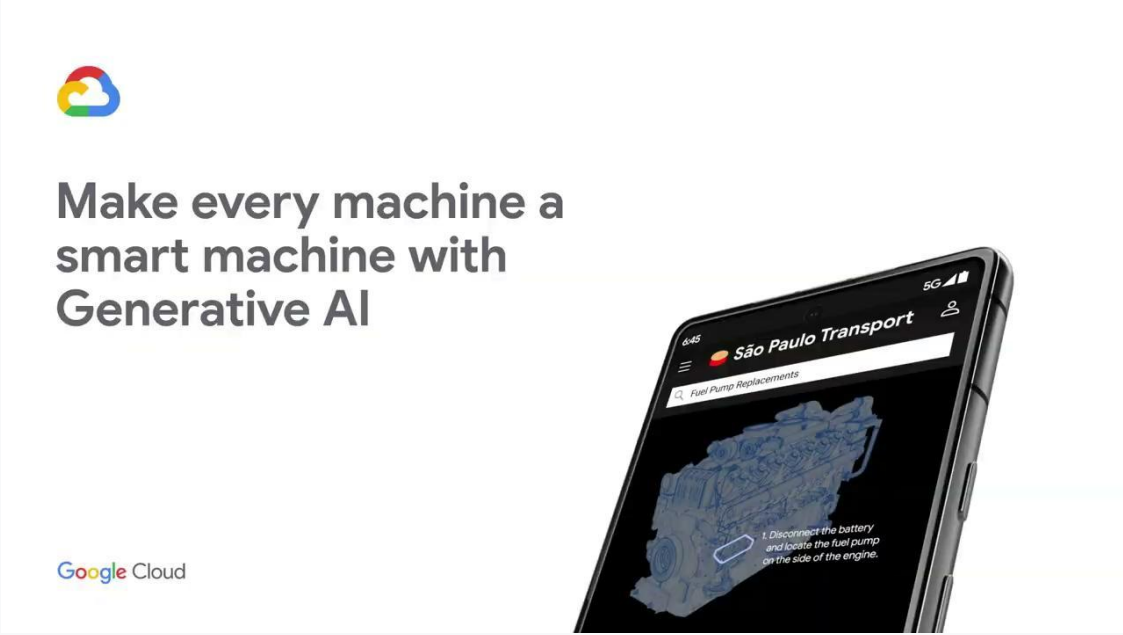
Generative AI can simplify the usually complex, time-consuming process of finding and managing care.

Proprietary + Confidential

#9 - Make every machine a smart machine

Manufacturing

Explore how generative AI can speed and simplify maintenance workflows by surfacing insights, building dynamic resolution plans, and expediting workflows.

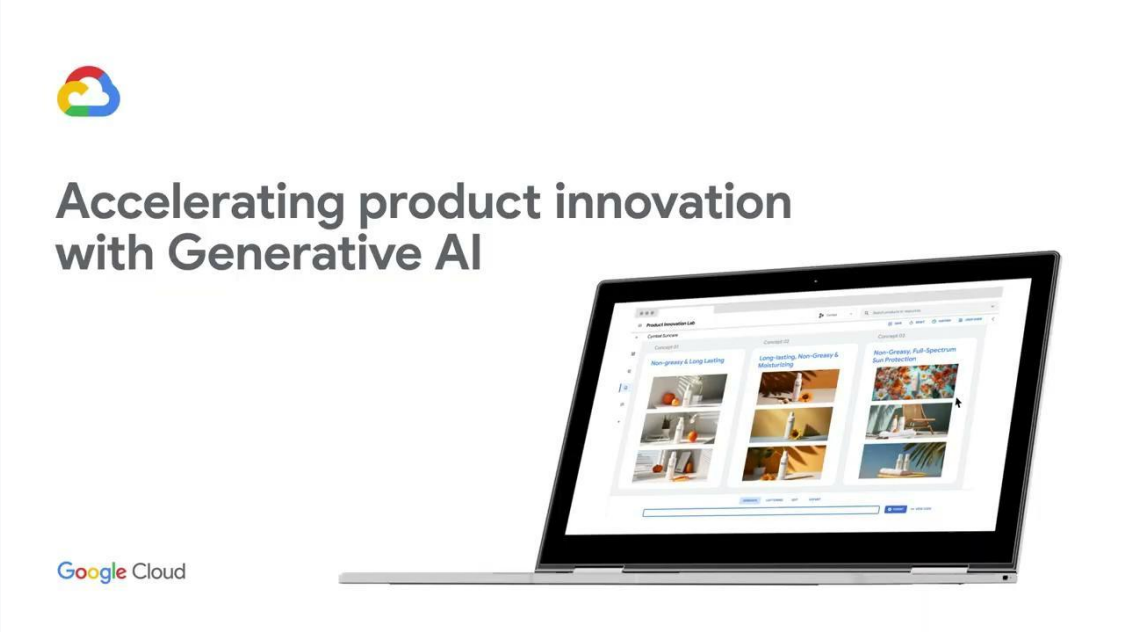


Proprietary + Confidential

#10 - Accelerating product innovation

CPG

Generative AI can speed research and development, radically compressing the timeframe it takes to bring new products to market.

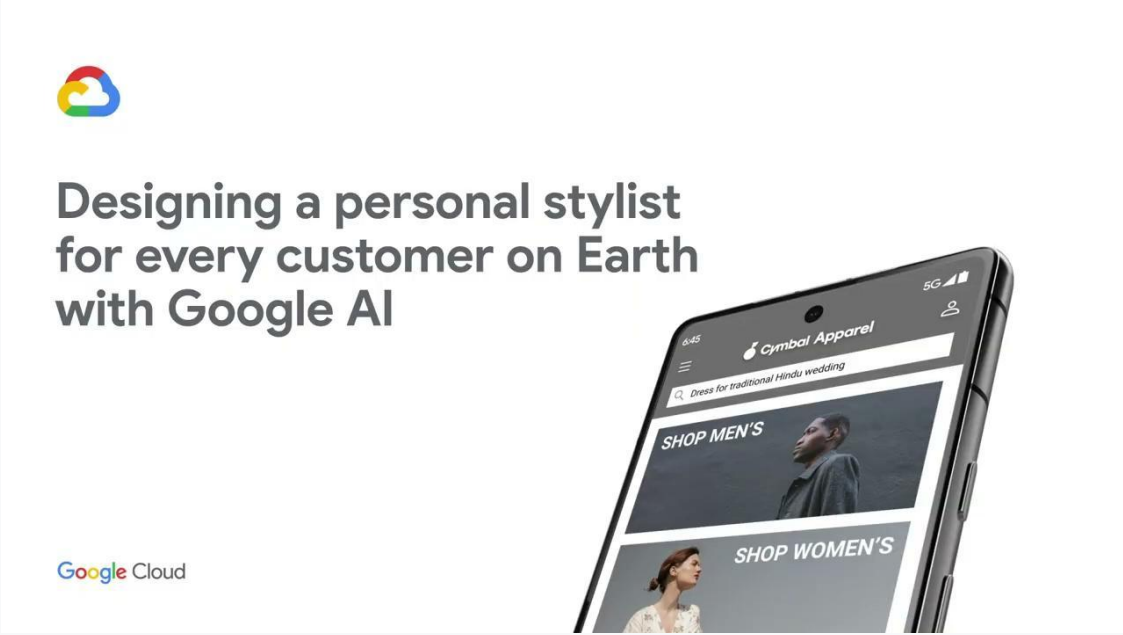


Proprietary + Confidential

#11 - Designing a personal stylist for every customer

Retail

Generative AI can help retailers deliver highly-customized conversational experiences for online shopping.



Proprietary + Confidential

#12 - Transform the in-car experience

Automotive

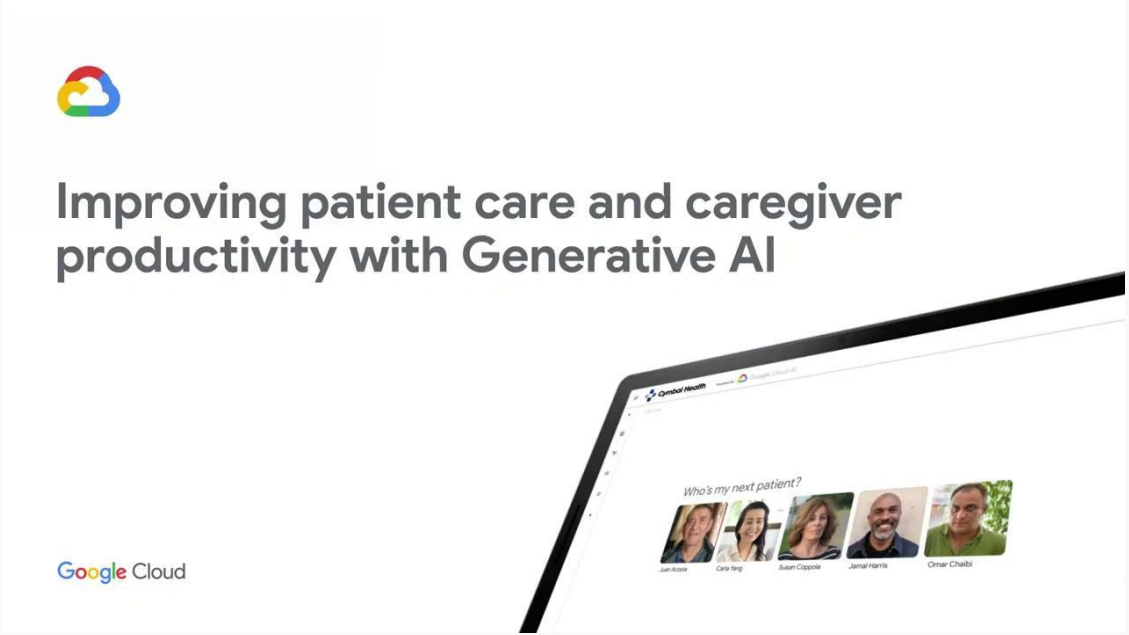
Generative AI can reinvent the in-car experience, helping drivers make their commutes productive, entertaining, and stress-free.

Proprietary + Confidential

#13 - Improving patient care and caregiver productivity

Healthcare

Generative AI tools can provide real-time assistance for providers, empowering them to deliver the highest level of care with the lowest levels of stress.

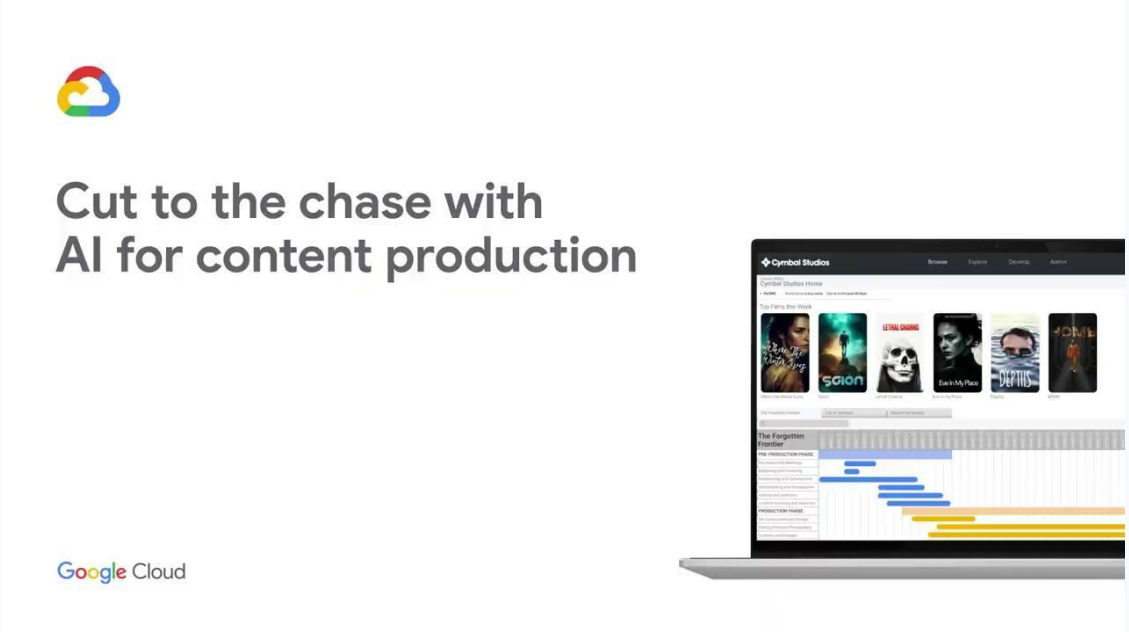


Proprietary + Confidential

#14 - Cut to the chase with AI for content production

Media & Entertainment

With Generative AI, media producers can speed and simplify the process of discovering the scripts with potential and make more informed investments.

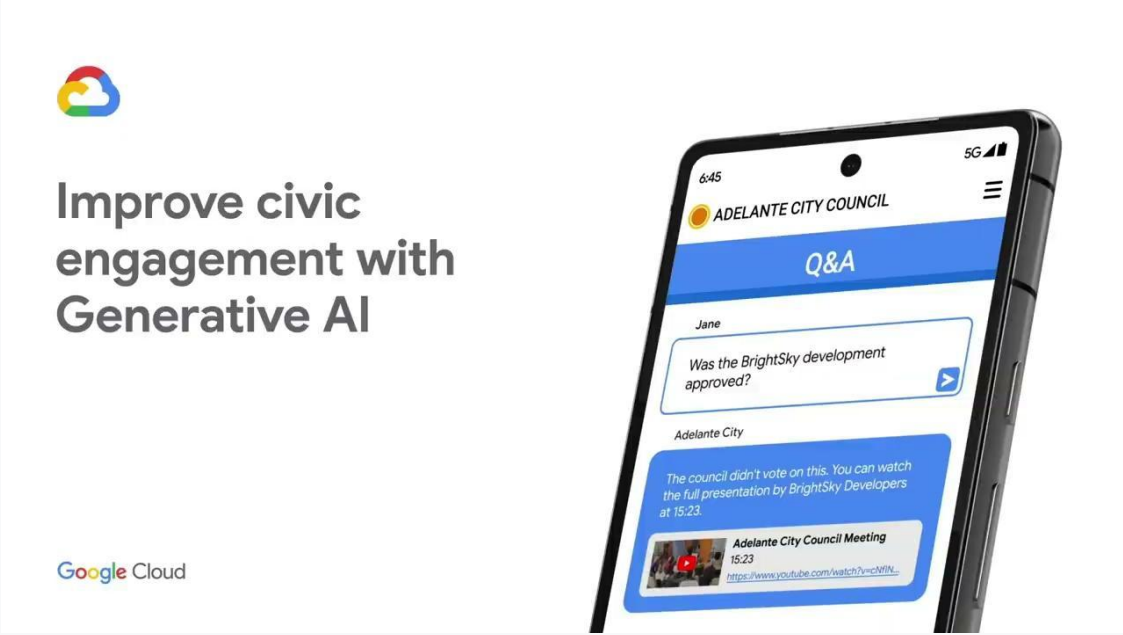


Proprietary + Confidential

#15 - Improve civic engagement

Public Sector

Generative tools can help our leaders design for collaboration, include more voices in the discussion, and guide communities towards thriving futures.

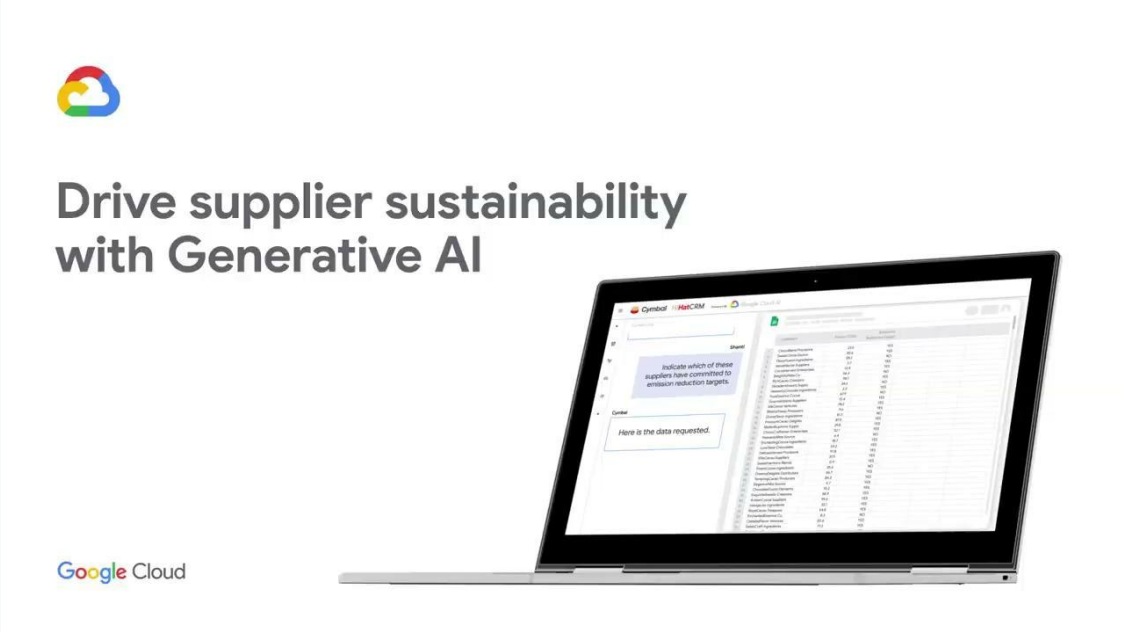


Proprietary + Confidential

#16 - Drive supplier sustainability

Sustainability

Generative AI can help CPGs uncover hidden insights that not only drive higher productivity, but better sustainability.

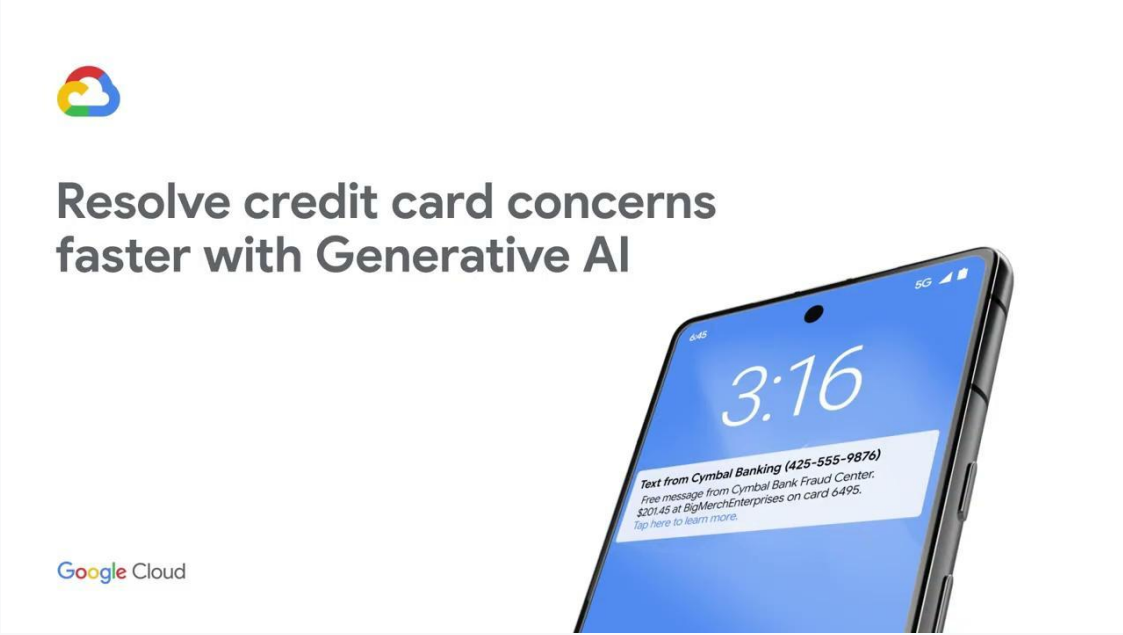


Proprietary + Confidential

#17 - Resolve credit card concerns faster

Financial Services

Generative AI can speed and simplify the resolution of common customer concerns, like replacing a credit card that's been flagged for suspicious activity.

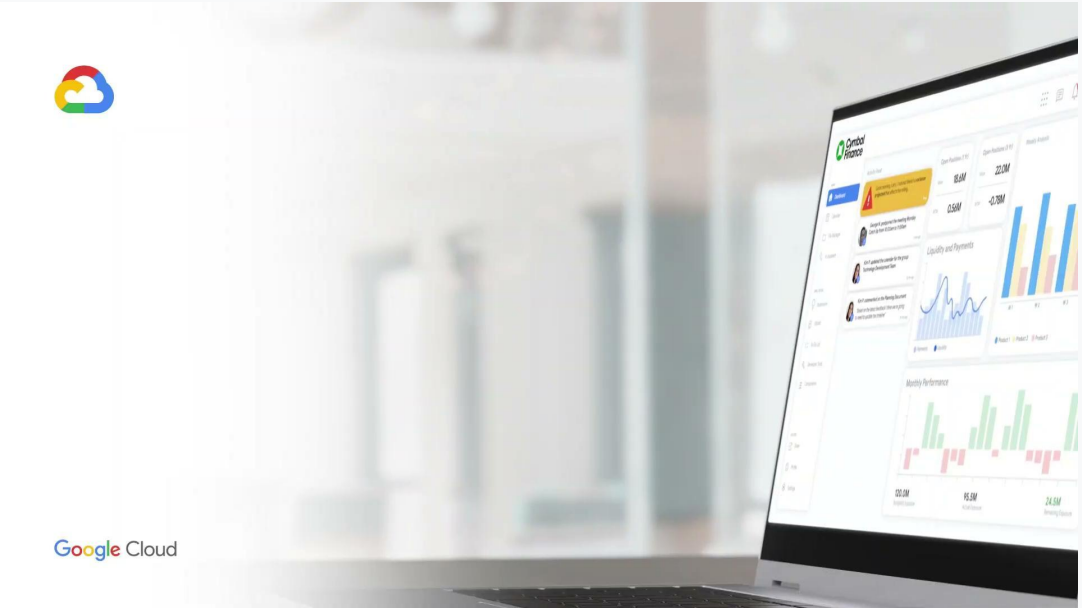


Proprietary + Confidential

#20 - Improve Cash Flow Management

Horizontal

Cash flow forecasting is a critical function for treasury departments. It allows them to manage liquidity, optimize working capital, and mitigate financial risks. What we're looking at is an opportunity to find quicker paths to be more efficient in all areas of Treasury. Building accuracy and efficiency into cash forecasts is a benefit to Treasury effectiveness.



Proprietary + Confidential

#21 - Delivering Excellent Customer Service

Horizontal

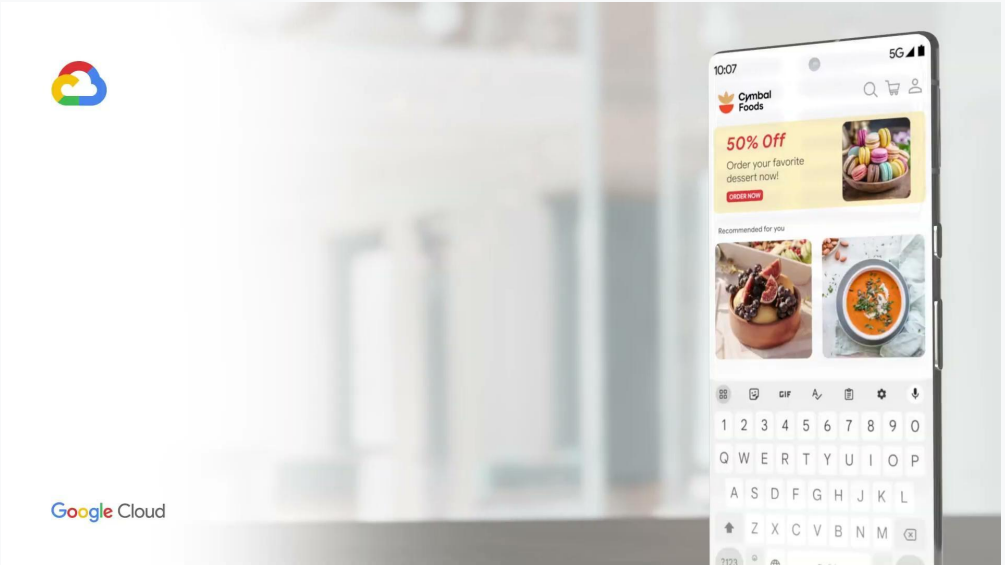
When customers sign up for internet service to their homes, they're hoping two things will go well: they'll get reliable long-term access to data, and have a good experience of the installation process. Generative AI assistance can help customers have a positive end-to-end experience of establishing new service. It can also help installers be fully resourced and able to do their best work.

Proprietary + Confidential

#22 - Shopping Made Easy with Generative AI

Horizontal

Buying food online has been pretty uninspiring. But what if you had someone who could help you make your most special meals. Some to collaborate with, who understood what you wanted, and helped you feel good about the decisions you were making. With Google AI, retailers can offer a culinary stylist to help every grocery shopper on the planet.

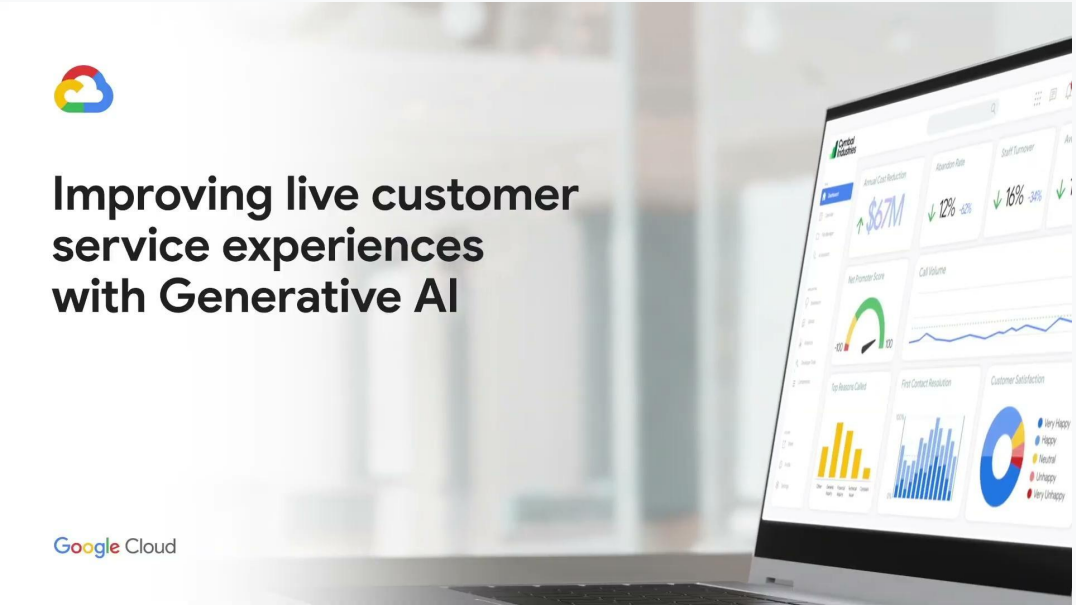


Proprietary + Confidential

#24 - Improving Live Customer Service Experiences

Horizontal

Generative AI is supporting live customer service agents with real-time access to information and in-the-moment coaching that helps them deliver excellent experiences on every call. Google's advanced contact center solutions provide virtual agents who perform smarter triage, make siloed information accessible to live agents, and deliver bespoke experiences for every customer.



Proprietary + Confidential

#25 - Enhance Content and Improve Navigation

Horizontal

Editorial teams are looking for tools to help their content connect better with site visitors, and support greater engagement with improved site navigation. Generative AI tools can help content marketers launch media that's customized to local audiences, easily discoverable, and designed for engagement.

Proprietary + Confidential

#26 - Sales Coaching and Support with Generative AI

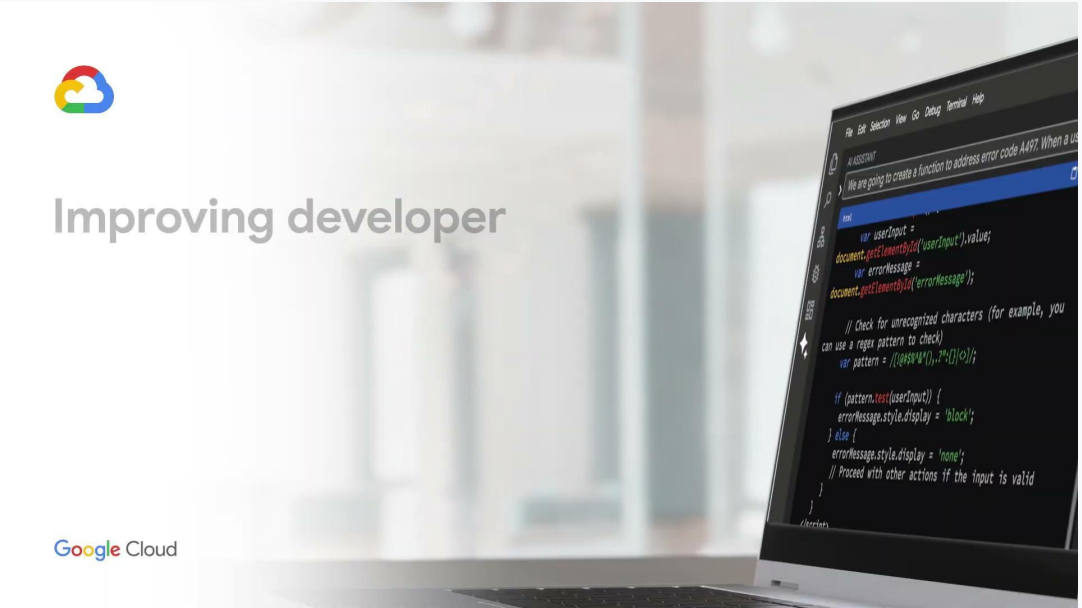
Horizontal

Top salespeople need a comprehensive view of their customer's accomplishments to date, their ambitions, and the industry context that shapes their world. For our sales leaders to bring value in every meeting, and provide strategic insight, a generative AI assistant can provide a 360-degree view that can enhance each conversation and help them close their must-win accounts.

Google Cloud

Proprietary + Confidential

#27 - Improving Developer Efficiency

Horizontal

Developers are among the best and brightest workers in tech. But they all face two obstacles that slow them down: knowledge silos and limited access to documented solutions. Generative AI can help developers work more efficiently and strategically. Especially when it comes to resolving errors and generating documentation.